

5400 S

BANGERter HIGHWAY TO 4800 WEST

State
Environmental
Study

5400 South
(SR-173)



June 2011
UDOT Project No. S-0173(16)5

SR-173, 5400 South, Bangerter Highway to 4800 West
Salt Lake County, Utah

Decision Document



State Environmental Study
UDOT Project No: S-0173(16)5
PIN 8523

Utah Department of Transportation

June 2011

PROJECT DESCRIPTION

The Utah Department of Transportation (UDOT) proposes to construct approximately 1.3 miles of transportation capacity improvements on 5400 South (State Route [SR]-173), from 4800 West to Bangerter Highway, in Salt Lake County, Utah. The improvements would occur within Kearns Township and the City of Taylorsville and would address specific transportation needs of the 5400 South corridor.

PURPOSE AND NEED

The primary purpose of the proposed project is to accommodate travel demand on 5400 South through the design year 2040 and to improve the regional mobility of the corridor. A secondary purpose is to improve safety on 5400 South. Based on this, the following transportation needs have been identified on 5400 South.

- **Travel Demand:** Traffic volumes exceed capacity on 5400 South causing delays and congestion.
- **Regional Mobility:** Poor operational conditions on 5400 South adversely affect regional mobility since 5400 South is one of the primary east-west travel routes in the Salt Lake Valley.
- **Safety:** 5400 South has an accident rate double that of roadways with similar characteristics.

For a full description of the proposed project's purpose and need, see Chapter 1 of the State Environmental Study (SES).

ALTERNATIVES CONSIDERED

In order to establish the alternative best suited to address the proposed project's purpose and need, the study team initiated an alternatives screening process, which included four steps: identification of alternatives, preliminary screening, purpose and need screening, and comparative evaluation of alternatives. Each step of the process involved analysis, recommendations, and validation from a multidisciplinary study team composed of environmental, engineering, and traffic professionals. The No Build Alternative was considered to provide a baseline for evaluating future (year 2040) traffic conditions and for comparing impacts with the other alternatives. Nine build alternatives were developed to address traffic problems, representing a range of roadway improvements options, including:

- **Alternative 1:** Widen 4700 South to seven lanes (about 135 feet wide) between Bangerter Highway and 4800 West.
- **Alternative 2:** Intersection improvements at 4015 West and 4800 West with associated widening of 5400 South to seven lanes between 4015 West and 4220 West, then transitioning back to the existing roadway cross section from 4220 West to 4800 West.
- **Alternative 3:** Intersection improvements at 4015 West and 4800 West with associated widening of 5400 South to seven lanes between 4015 West and 4220 West. Additional widening of 5400 South between 4220 West and 4800 West to improve shoulders and sidewalks along the corridor.

- **Alternative 4:** Widen 5400 South to seven lanes (about 135 feet wide) on the north side and provide intersection capacity improvements at 4015 West and 4800 West.
- **Alternative 5:** Widen 5400 South to seven lanes (about 135 feet wide) on the south side and provide intersection capacity improvements at 4015 West and 4800 West.
- **Alternative 6:** Widen 5400 South to seven lanes (about 135 feet wide) on the south side from 4015 West to approximately 4620 West and on the north side from 4620 West to 4800 West. Alternative 6 would also provide intersection capacity improvements at 4015 West and 4800 West.
- **Alternative 7:** Widen 5400 South to a standard five-lane cross section (four travel lanes and turn lane that cannot be used as a travel lane) with shoulders and sidewalks (about 110 feet wide) and operate the roadway with Flex Lanes.
- **Alternative 8:** Widen 5400 South to a six-lane cross section (about 120 feet wide with five travel lanes and turn lane that cannot be used as a travel lane) and operate the roadway with Flex Lanes.
- **Alternative 9:** Widen 5400 South to a seven-lane cross section (about 135 feet wide with six travel lanes and a turn lane that cannot be used as a travel lane) and operate the roadway with Flex Lanes.

Preliminary screening was a qualitative step using professional judgment and knowledge of traffic operations in the study area and surrounding region. During this step, the study team determined if the nine alternatives could provide sufficient capacity on 5400 South to meet 2040 traffic demand. The preliminary screening eliminated Alternatives 1, 7, 8, and 9 from further consideration.

Purpose and need screening was a quantitative step, using traffic modeling results to support decisions to eliminate or carry forward alternatives. Each of the remaining five alternatives was screened to determine if the specific alternative would meet the design year 2040 traffic needs on 5400 South. The purpose and need screening eliminated Alternatives 2 and 3 from further consideration because they would not effectively reduce congestion on 5400 South.

Based on the results of the operational evaluation completed during the preliminary and the purpose and need screening process, it was determined that the alternatives that widened 5400 South to seven lanes (Alternatives 4, 5, and 6) were the only alternatives that would improve 5400 South operations to a Level of Service (LOS) D or better at each of the intersections along the corridor. LOS ratings, A (best) to F (worst), are used to classify the operational performance of intersections based on vehicle delay (see Section 1.3.1 and Chapter 2).

In the comparative evaluation, engineering and environmental considerations were evaluated for Alternatives 4, 5, and 6. These considerations included: consistency with design standards and roadway classification, utility impacts, cost of construction, relocations, historic resources, community facilities, and economics. Alternatives were not eliminated based on poor performance related to any single engineering or environmental issue. Rather the performance of the alternative as a whole was evaluated. From this, the study team determined that Alternative 6 (widening to the south along a portion of the corridor then transitioning to the north along the remainder of the corridor) performed the best from an

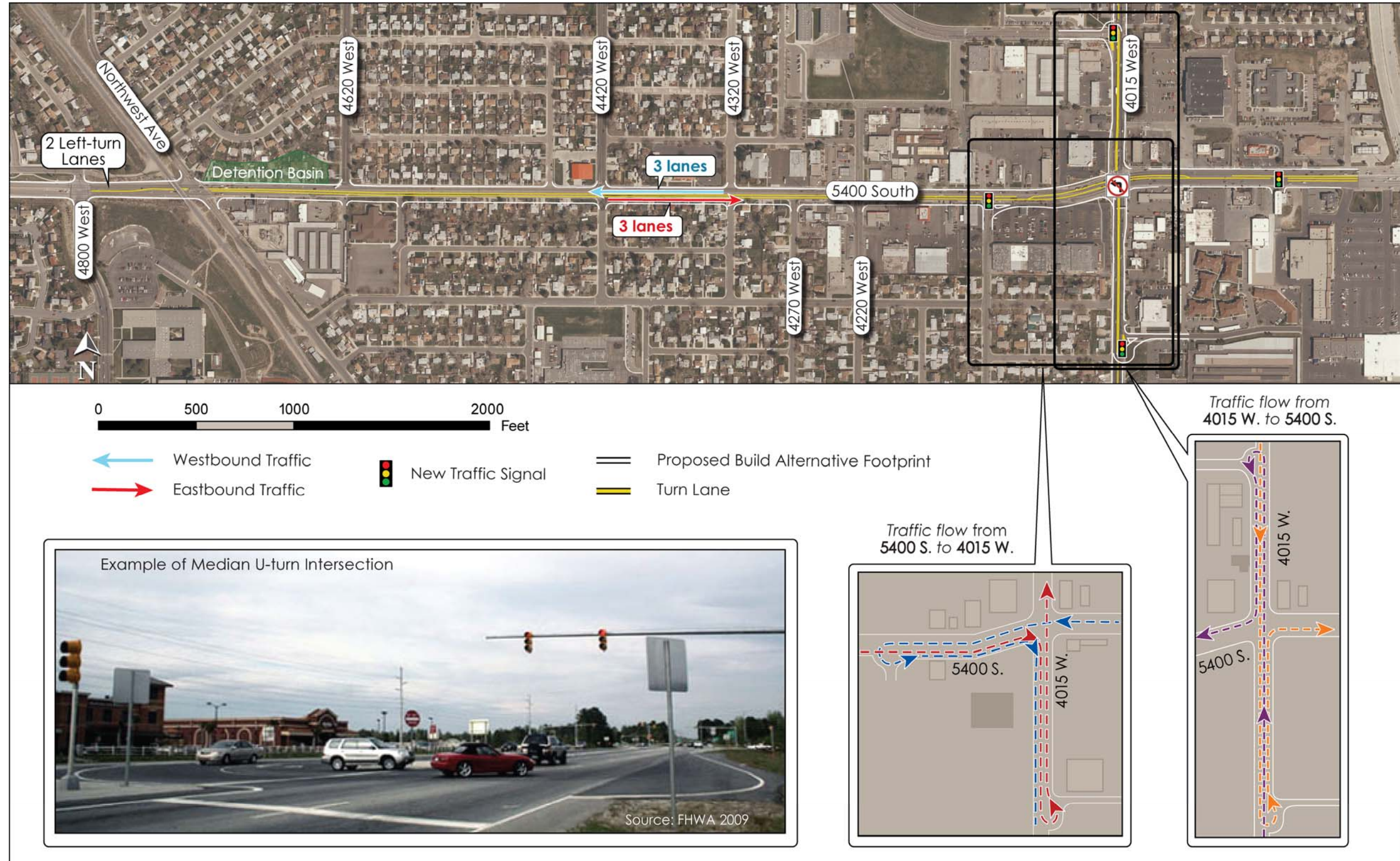
engineering standpoint, and Alternative 5 (widening to the south of the existing corridor) performed the best from an environmental standpoint.

BUILD ALTERNATIVE

Ultimately, the study team selected the alignment of Alternative 6 but reduced the width of the cross section to approximately 100 feet to lessen impacts and to be more consistent with the impacts of Alternative 5. A modified version of Alternative 6 is the preferred Build Alternative. For a full description of the alternative screening process, see Chapter 2 of the SES.

The Build Alternative includes widening 5400 South to seven lanes (three travel lanes in each direction, with a center turn lane) with new, wider sidewalks along both sides of 5400 South. The width of the cross section would be approximately 100 feet. Intersection improvements would occur at 4015 West and 5400 South and at 4800 West and 5400 South to increase intersection capacity. A new intersection would be constructed at 3900 West and 5400 South to improve accessibility to adjacent land uses. Improvements along the corridor may occur with initial construction or may be phased in at a later date. The Build Alternative is shown in **Figure 1** below.

Figure 1: Proposed Build Alternative



ENVIRONMENTAL IMPACTS AND MITIGATION FOR THE BUILD ALTERNATIVE

Environmental impacts and mitigation for the Build Alternative were evaluated for all applicable resources. **Table 1** provides a summary of the impacts resulting from implementation of the proposed Build Alternative. **Table 1** also summarizes Mitigation Measures that would be implemented to minimize environmental impacts. For a full description of impacts and mitigation, see the appropriate resource section in Chapter 3 of the SES.

Table 1: Summary of Environmental Impacts and Mitigation Measures for the Build Alternative

SES Section	Environmental Impacts	Mitigation Measures
3.1 Land Use	The Build Alternative would convert approximately 6 acres of residential, 3.5 acres of commercial, and less than 0.25 acres of institutional uses to transportation use. Because this is a small percentage of the overall land uses in Kearns Township, no impacts are expected as a result of the Build Alternative.	No mitigation is required.
3.2 Social	The proposed project would not result in substantial changes to community character and cohesion or impact public services. A number of utilities may be relocated as a result of the Build Alternative, but these relocations would not affect utility services. However, the Veteran's Memorial located on the corner of 4015 West and 5400 South would have to be relocated.	Relocation of the Veteran's Memorial.
3.3 Relocations	The Build Alternative would require the relocation of 38 residences, relocation of 8 businesses, and partial acquisition of 22 properties. UDOT is required to comply with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT.	No mitigation is required.
3.4 Economics	The Build Alternative would impact approximately 3.5 acres of commercial property and relocate 7 businesses in Kearns Township and 1 business in Taylorsville. Because these changes would not substantially affect the City of Taylorsville or Kearns Township tax base or affect the feasibility of Kearns Township incorporation in the future, no impacts are expected under the Build Alternative.	No mitigation is required.
3.5 Bicyclists and Pedestrian Considerations	The Build Alternative would improve conditions by constructing wider sidewalks that would meet Americans with Disability Act standards. The wider sidewalks would also allow better accommodations for students who walk along 5400 South. The Build Alternative also includes provisions for a shared roadway bicycle facility, which is an improvement over existing conditions.	No mitigation is required.

SES Section	Environmental Impacts	Mitigation Measures
3.6 Water Resources	<p>The existing storm drain system does not provide enough capacity resulting in localized flooding. The project includes a new storm drain system and detention basin to accommodate the 6.5 cubic feet per second increase in storm water and to accommodate existing storm water needs.</p> <p>UDOT must obtain a Utah Pollutant Discharge Elimination System (UPDES) Permit prior to construction and comply with the provisions of the permit during construction.</p>	No mitigation is required.
3.7 Natural Resources	The proposed project is located in an urbanized corridor, and no impacts to natural resources are expected.	No mitigation is required.
3.8 Air Quality	Air quality impacts resulting from the Build Alternative have been evaluated, and the proposed project would conform to all regional and state requirements. There are no anticipated impacts associated with air quality.	No mitigation is required.
3.9 Noise	Existing noise levels along 5400 South are between 53 dBA and 75 dBA, and the future noise levels are generally anticipated to increase between 1 and 6 dBA, depending on location. A total of 46 noise-sensitive receivers would be impacted by the proposed project.	Noise barriers were considered in four areas for impacted noise-sensitive receivers, but were determined not to be feasible. No mitigation is required.
3.10 Hazardous Materials	The Build Alternative could disturb 7 sites with potential hazardous material contamination. Additionally, 45 buildings potentially containing asbestos or lead-based paint would be demolished. UDOT would follow their standard specification for environmental protection that outlines proper removal and disposal of hazardous materials, asbestos, and lead-based paint during construction, if discovered.	No mitigation is required.
3.11 Cultural Resources	The Build Alternative would have an Adverse Effect on 28 historic buildings eligible for the National Register of Historic Places (NRHP).	Memorandum of Agreement (MOA) stipulations.
3.12 Visual Quality	The Build Alternative would result in visual changes (e.g., a wider roadway, new sidewalks, demolition of some buildings), but it would not degrade the visual quality of the study area.	No mitigation is required.

PUBLIC COORDINATION

UDOT completed a formal scoping process to gather public input and identify issues related to the proposed project that merit further study. UDOT coordinated with the public and agencies that oversee the management of natural resources, public services, and planning in the study area. UDOT also employed the following methods to educate, inform, and solicit feedback from the public, including: leaving flyers on doors in the study area; placing legal advertisements in regional newspapers; mailing 6,600 postcards; sending an e-newsletter; posting online advertisements on Facebook; establishing a Facebook event page; distributing notification on Twitter; posting event information on the City of Taylorsville, Kearns Township, and UDOT's websites; and sending information home with local school children.

UDOT hosted a public open house on January 27, 2011, from 5:30 PM to 7:30 PM at Oquirrh Hills Elementary School (5241 South 4280 West, Kearns Township). More than 200 people attended the open house to voice their concerns, comments, and suggestions. UDOT received 122 comments during the scoping process. Comments and responses are discussed in more detail in Chapter 4 and Appendix C of the SES.

A public hearing was held on May 12, 2011, from 5:30 PM to 7:30 PM at David Gourley Elementary School (4905 South 4300 West, Kearns Township). Over 162 people attended and participated in the public hearing to voice their concerns, comments, and suggestions. Public comments were accepted between April 22 and May 26, 2011. UDOT received 63 written comments from the public hearing and approximately 61 emailed comments. Several themes became apparent in the public comments that included: concern about the selection of ThrU-Turns at the 5400 South and 4015 West intersection; pedestrian safety, especially at the ThrU-Turn intersection; business impacts due to relocations and disruptions to operations during construction; residential relocations; and traffic problems at the 5400 South and 4800 West intersection. **Table 4-1** of the SES shows each comment received and each response provided by the study team.

DETERMINATION

UDOT approves the selection of the Build Alternative as described in Chapter 2 of the SES.

The Build Alternative was developed through a public process that included refinements to avoid and minimize environmental impacts while still meeting the context sensitive constraints in the project area. UDOT has determined that the Build Alternative best meets the transportation needs while effectively considering environmental, safety, cost, and socioeconomic factors. UDOT has considered all of the issues raised in the record including the information contained in (and comments to) the draft and final State Environmental Studies while making this decision.



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Signature

Date

Region Environmental Manager



2011.06.16

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Date

UDOT Environmental Services Director



Signature

Date

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UDOT Project Development Director

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Acronym/Abbreviation	Definition
AASHTO	American Association of State Highway and Transportation Officials
ACM	Asbestos-containing Material
ADA	Americans with Disabilities Act
BMP	Best Management Practices
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CLG	Certified Local Government
CO	Carbon Monoxide
CWA	Clean Water Act
D&RGW	Denver and Rio Grande Western Railroad
dB	Decibel
dBA	A-weighted Decibel
DERR	Utah Division of Environmental Response and Remediation
DOE/FOE	Determination of Eligibility and Finding of Effect
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FHWA	Federal Highway Administration
I	Interstate
LDS	Latter Day Saints
Leq(h)	Level Equivalent
LOS	Level of Service
LUST	Leaking Underground Storage Tank
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MOVES	Motor Vehicle Emission Simulator
mph	Miles per Hour
MPO	Metropolitan Planning Organization
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxide

Acronym/Abbreviation	Definition
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O ₃	Ozone
OSR	Operational Safety Report
Pb	Lead
PM ₁₀ & PM _{2.5}	Particulate Matter less than 10 and 2.5 microns
R	Receiver
RCRA	Resource Conservation and Recovery Act
RTP	Regional Transportation Plan
sec/veh	Seconds per Vehicle
SES	State Environmental Study
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SNAP	Student Neighborhood Access Program Plan
SO ₂	Sulfur Dioxide
SR	State Route
STIP	Statewide Transportation Improvement Program
SWPPP	Storm Water Pollution Prevention Plan
TNM	Traffic Noise Model
UCA	Utah Code Annotated
UDAQ	Utah Division of Air Quality
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UGS	Utah Geological Survey
UPDES	Utah Pollutant Discharge Elimination System
U.S.	United States
USIP	Utah State Implementation Plan
UST	Underground Storage Tank
UTA	Utah Transit Authority
v/c	Volume to Capacity
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
WFRC	Wasatch Front Regional Council

EXECUTIVE SUMMARY

The Utah Department of Transportation (UDOT) proposes to construct approximately 1.3 miles of transportation capacity improvements on 5400 South (State Route [SR]-173), from 4800 West to Bangerter Highway, in Salt Lake County, Utah. The improvements would occur within Kearns Township and the City of Taylorsville and would address specific transportation needs of the 5400 South corridor.

PURPOSE AND NEED

The primary purpose of the proposed project is to accommodate travel demand on 5400 South through the design year 2040 and to improve the regional mobility of the corridor. A secondary purpose is to improve safety on 5400 South. Based on this, the following transportation needs have been identified on 5400 South.

- **Travel Demand:** Traffic volumes exceed capacity on 5400 South causing delays and congestion.
- **Regional Mobility:** Poor operational conditions on 5400 South adversely affect regional mobility since 5400 South is one of the primary east-west travel routes in the Salt Lake Valley.
- **Safety:** 5400 South has an accident rate double that of roadways with similar characteristics.

For a full description of the proposed project's purpose and need, see Chapter 1 of this State Environmental Study (SES).

ALTERNATIVES CONSIDERED

In order to establish the alternative best suited to address the proposed project's purpose and need, the study team initiated an alternatives screening process, which included four steps: identification of alternatives, preliminary screening, purpose and need screening, and comparative evaluation of alternatives. Each step of the process involved analysis, recommendations, and validation from a multidisciplinary study team composed of environmental, engineering, and traffic professionals. Nine build alternatives were developed to address traffic problems, representing a range of roadway improvements options (see Chapter 2 of this SES for a full list of alternatives) and including:

- Alternate route widening on 4700 South,
- Stand-alone intersection improvements on 5400 South,
- Different alignments for a seven-lane cross section on 5400 South, and
- Alternate operational conditions (e.g., Flex Lanes).

Based on the results of the operational evaluation completed during the preliminary and the purpose and need screening process, it was determined that the alternatives that widened 5400 South to seven lanes (Alternatives 4, 5, and 6) were the only alternatives that would improve 5400 South operations to Level of Service (LOS) D or better at each of the intersections along the corridor. LOS ratings, A (best) to F

(worst), are used to classify the operational performance of intersections based on vehicle delay (see Section 1.3.1 and Chapter 2).

Alternatives 4, 5, and 6 were then evaluated for engineering and environmental considerations. From this, the study team determined that Alternative 6 (widening to the south along a portion of the corridor then transitioning to the north along the remainder of the corridor) performed the best from an engineering standpoint, and Alternative 5 (widening to the south of the existing corridor) performed the best from an environmental standpoint.

BUILD ALTERNATIVE

Ultimately, the study team selected the alignment of Alternative 6 but reduced the width of the cross section to approximately 100 feet to lessen impacts and to be more consistent with the impacts of Alternative 5. A modified version of Alternative 6 is the preferred Build Alternative. For a full description of the alternative screening process, see Chapter 2 of this SES.

The Build Alternative includes widening 5400 South to seven lanes (three travel lanes in each direction, with a center turn lane) with new, wider sidewalks along both sides of 5400 South. The width of the cross section would be approximately 100 feet. Intersection improvements would occur at 4015 West and 5400 South and at 4800 West and 5400 South to increase intersection capacity. A new intersection would be constructed at 3900 West and 5400 South to improve accessibility to adjacent land uses. Improvements along the corridor may occur with initial construction or may be phased in at a later date. The Build Alternative is shown in **Figure ES-1**.

Figure ES-1: Proposed Build Alternative



ENVIRONMENTAL IMPACTS AND MITIGATION FOR THE BUILD ALTERNATIVE

Environmental impacts and mitigation for the Build Alternative were evaluated for all applicable resources. **Table ES-1** provides a summary of the impacts resulting from implementation of the proposed Build Alternative. **Table ES-1** also summarizes Mitigation Measures that would be implemented to minimize environmental impacts. For a full description of impacts and mitigation, see the appropriate resource section in Chapter 3 of this SES.

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CHAPTER 1 PURPOSE AND NEED

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Chapter 1 presents the purpose and need for the proposed action. It describes the transportation problem to be solved and includes:

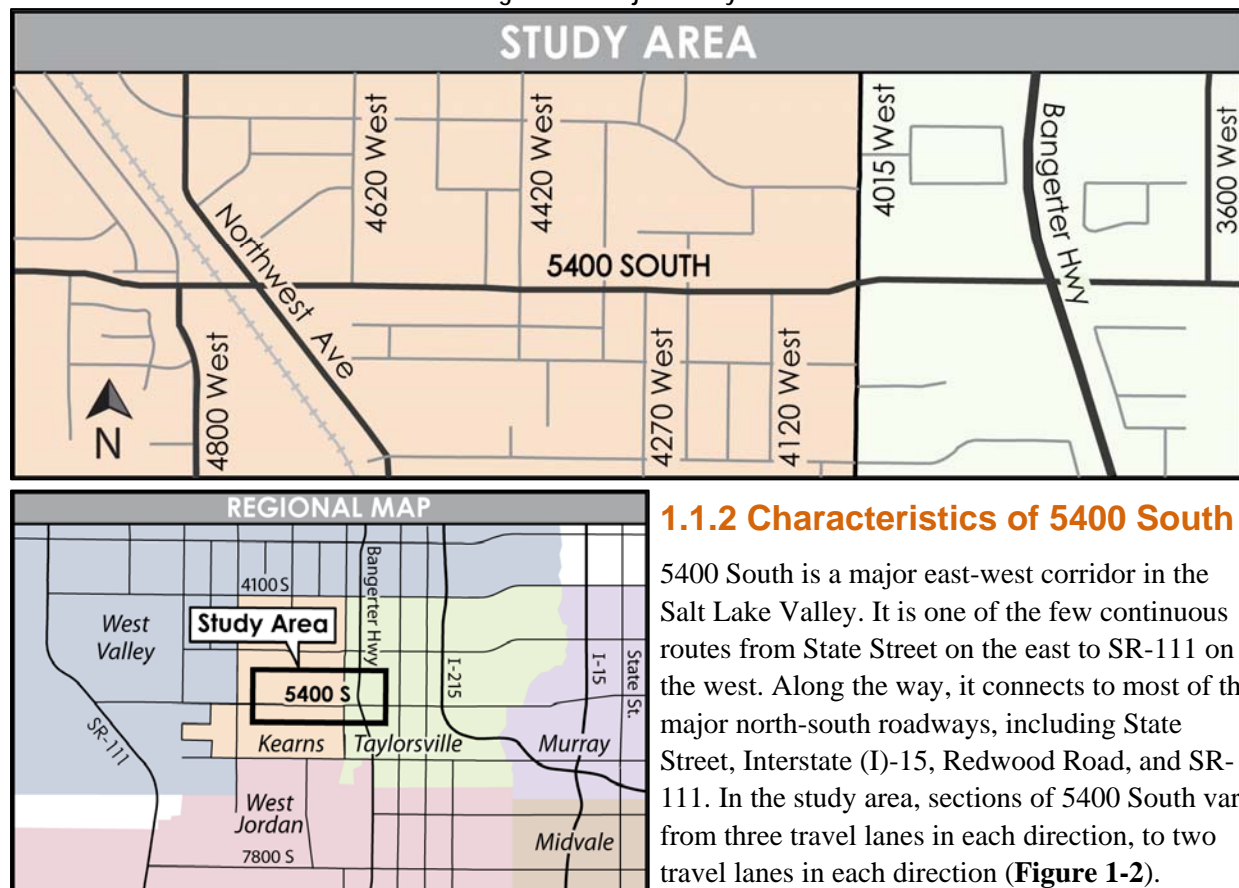
- Background information about the study and the study area,
- Purpose for the proposed action, and
- Need defined as a set of transportation problems in the study area.

1.1 STUDY BACKGROUND

1.1.1 Study Area

The study area extends along 5400 South from Bangerter Highway to 4800 West (**Figure 1-1**). The study area is primarily within the limits of Salt Lake County's Kearns Township, though a portion of the study area east of 4015 West is within the City of Taylorsville.

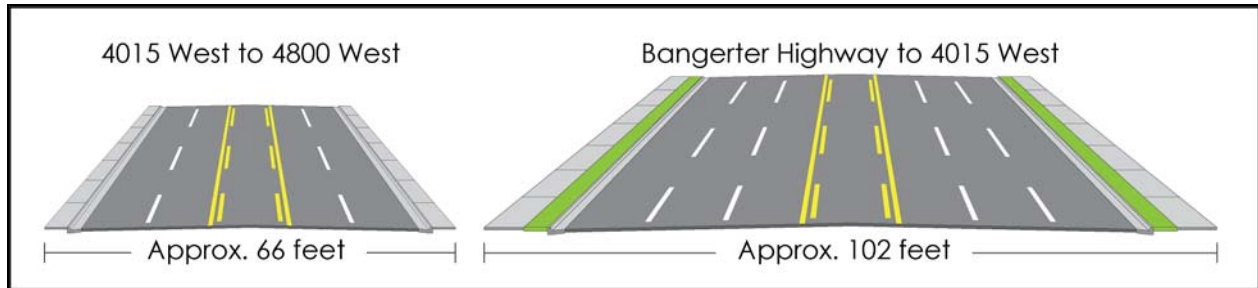
Figure 1-1: Project Study Area



1.1.2 Characteristics of 5400 South

5400 South is a major east-west corridor in the Salt Lake Valley. It is one of the few continuous routes from State Street on the east to SR-111 on the west. Along the way, it connects to most of the major north-south roadways, including State Street, Interstate (I)-15, Redwood Road, and SR-111. In the study area, sections of 5400 South vary from three travel lanes in each direction, to two travel lanes in each direction (**Figure 1-2**).

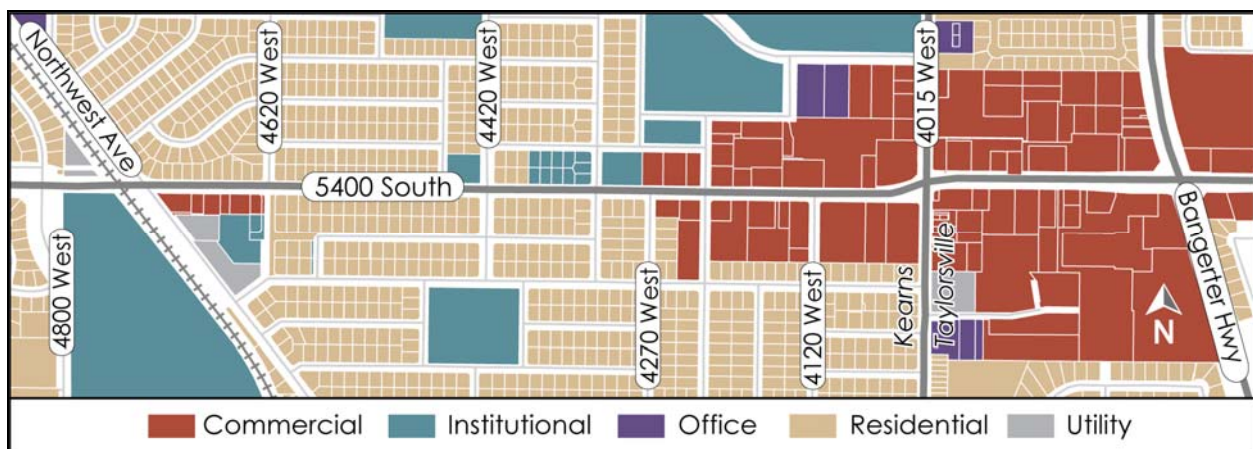
Figure 1-2: Existing 5400 South Roadway Widths



1.1.3 Land Uses within the Study Area

Land uses in Kearns Township and the City of Taylorsville are primarily residential, with pockets of commercial, industrial, and institutional development located along major roads like 5400 South (**Figure 1-3**). The current land use patterns generate a substantial number of vehicle trips since there are few employment centers and commercial services within walking distance of most residents.

Figure 1-3: Land Uses within the Study Area



Source: Taylorsville 2006 and Kearns 2009

1.1.4 Transportation Planning

The proposed project has been recommended on long-range transportation plans for a number of years. Most recently, the proposed action was formally recommended in the *Regional Transportation Plan, 2007-2030* (2030 RTP) adopted by Wasatch Front Regional Council (WFRC) (WFRC 2007). In the year 2010, the proposed project was funded by the State of Utah's legislature as a priority project. Related contents of each transportation plan identifying the proposed project are summarized in **Table 1-1**.

Table 1-1: Regional and Local Transportation Plans

Transportation Plan	Summary	Relationship to 5400 South
2011 Statewide Transportation Improvement Program (STIP) (UDOT 2011)	The STIP is an annually published, five-year plan of highway and transit projects for the State of Utah. The STIP is UDOT's official work plan for the development of projects from conception through construction.	Widening 5400 South is included in the 2011 STIP as Project Number S-0173(16)5.
Wasatch Front Regional Council <i>Regional Transportation Plan</i> , 2007-2030 (2030 RTP) (WFRC 2007)	The 2030 RTP is a plan to identify, finance, and implement a coordinated system of transportation improvements to serve existing and forecasted population and employment growth throughout Salt Lake, Davis, and Weber counties between the years 2007 and 2030.	The 2030 RTP recommends widening 5400 South from I-15 to Mountain View Corridor (approximately 6400 West) during Phase I (years 2007 to 2015) of the plan.
Kearns Township General Plan (Kearns 2009)	The Kearns Township General Plan is used as a policy guide for making decisions and contains the community's official best practices. The plan notes that there have been considerable increases in traffic volumes on all of the major streets serving Kearns Township since 1995 (with the exception of 4700 South). A large percentage of this traffic consists of "pass through" trips generated in the surrounding communities.	The plan recommends a project along the 5400 South corridor to study how it can function more efficiently.
City of Taylorsville General Plan (Taylorsville 2006)	The City of Taylorsville General Plan identifies existing and future congestion on most of the city's major arterials (Redwood Road, 2700 West, Bangerter Highway, 4700 South, 5400 South, and 6200 South). The plan encourages alternative forms of transportation and supports a greater regional emphasis on transportation planning.	The plan includes two recommendations for 5400 South in the study area: <ul style="list-style-type: none"> ▪ Additional capacity and ▪ Access management

Consistent with the above mentioned plans, a number of road construction projects are underway in and around the study area, all of which intend to improve operation of the roadway network. 5400 South Flex Lanes, Mountain View Corridor, and other mobility projects planned between the years 2010 and 2030 are shown on **Figure 1-4**. Implementation of these improvements, except for the proposed project, is assumed in the traffic analysis of 2040 No Build traffic conditions discussed in Section 1.3.

The traffic analysis assesses existing conditions (year 2010) and future conditions (year 2040). The year 2040 was selected for future conditions because the year:

- Is consistent with the calibrated and validated WFRC travel demand model,
- Allows for long-range planning that ensures the meaningful expenditure of public funds on projects with a 20+ year life span, and
- Allows for reasonable travel demand forecasting using industry standard practices.

Figure 1-4: Planned Transportation Improvement Projects



Source: WFRC 2007

1.2 PURPOSE OF THE PROJECT

The primary purpose of the proposed project is to accommodate travel demand on 5400 South through the design year 2040 and to improve the regional mobility of the corridor. A secondary purpose is to improve safety on 5400 South.

1.3 NEED FOR THE PROJECT

The following transportation needs have been identified on 5400 South.

- **Travel Demand:** Traffic volumes exceed capacity on 5400 South causing delays and congestion.

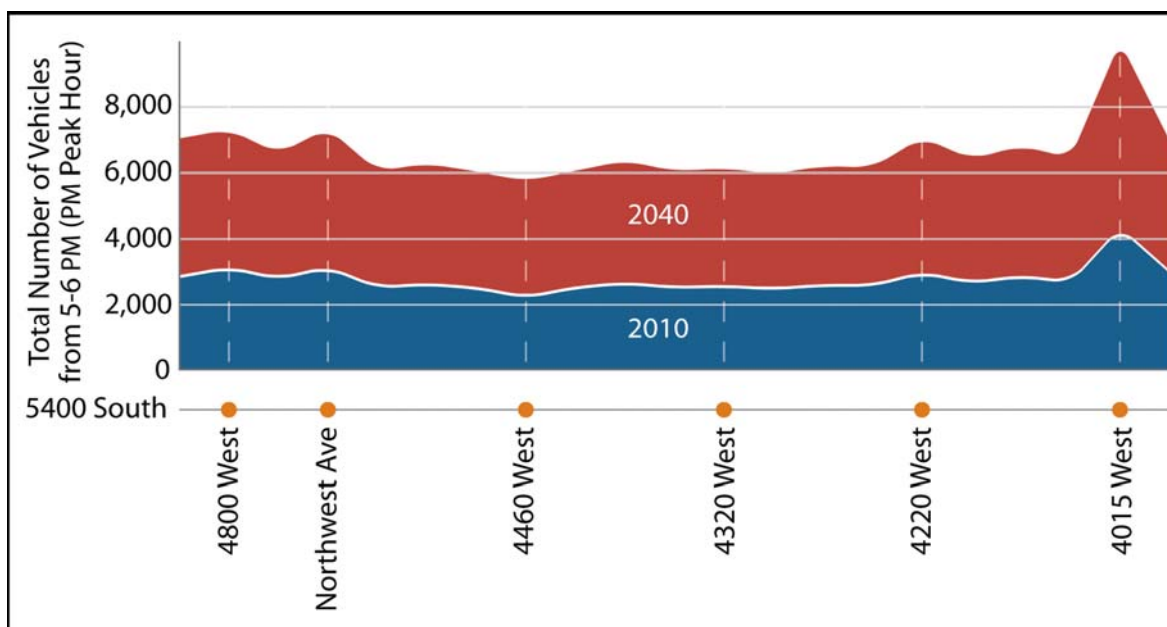
- **Regional Mobility:** Poor operational conditions on 5400 South adversely affect regional mobility since 5400 South is one of the primary east-west travel routes in the Salt Lake Valley.
- **Safety:** 5400 South has an accident rate double that of roadways with similar characteristics.

1.3.1 Travel Demand

Currently, there are two bottlenecks on 5400 South, at the intersection of 4015 West and 5400 South and at the intersection of 4800 West and 5400 South, that cause congestion and delay. Capacity is not sufficient at the intersection of 4015 West and 5400 South, and traffic backs up in both the eastbound and westbound directions during the PM peak hour.¹ Congestion also occurs at the 4800 West and 5400 South intersection, inhibiting westbound traffic along the corridor.

Daily traffic volumes are projected to increase substantially between the years 2010 and 2040 on 5400 South. Traffic increases are primarily associated with population growth and 5400 South's connectivity to major north-south regional transportation facilities. In the year 2010, approximately 3,000 vehicles travelled through this section of 5400 South during the PM peak hour. By the year 2040, this number is expected to more than double to approximately 6,500 vehicles (**Figure 1-5**). This trend also occurs during the AM (7:15 AM to 8:15 AM) peak hour but to a lesser degree. Increases in traffic volume exceed the region's transportation network capacity, causing increased congestion and decreased operational efficiency.

Figure 1-5: PM Peak Hour Traffic Volumes Comparison



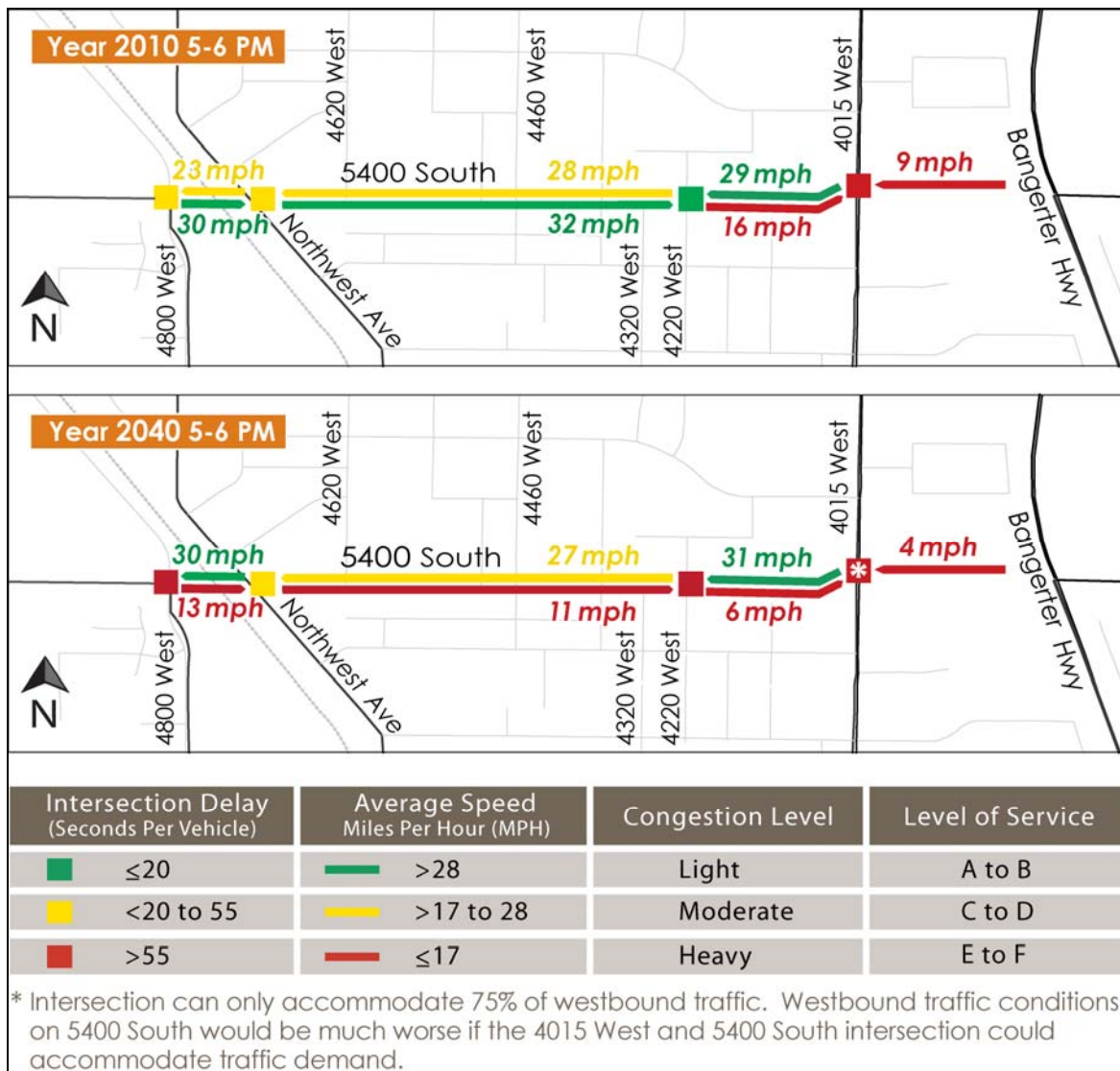
Source: Avenue Consultants 2011

Figure 1-6 shows the existing and projected Level of Service (LOS) for the year 2040 No Build conditions on roadways and intersections in the study area during the PM peak hour. Roadway LOS is

¹ The PM peak hour (5:00 PM to 6:00 PM) is the hour of day with the greatest traffic volumes.

based on the average travel speed and roadway classification for the corridor. Intersection LOS is determined by the average number of seconds a vehicle waits at an intersection (i.e., vehicle delay). LOS A and B represent free-flow conditions with limited interruptions. LOS C and D represent moderate congestion. LOS E and F represent heavy congestion where delays and stopped conditions are common. UDOT generally tries to maintain a LOS of D or better for both roadways and intersections.

Figure 1-6: PM Peak Hour Level of Service



Source: Avenue Consultants 2011

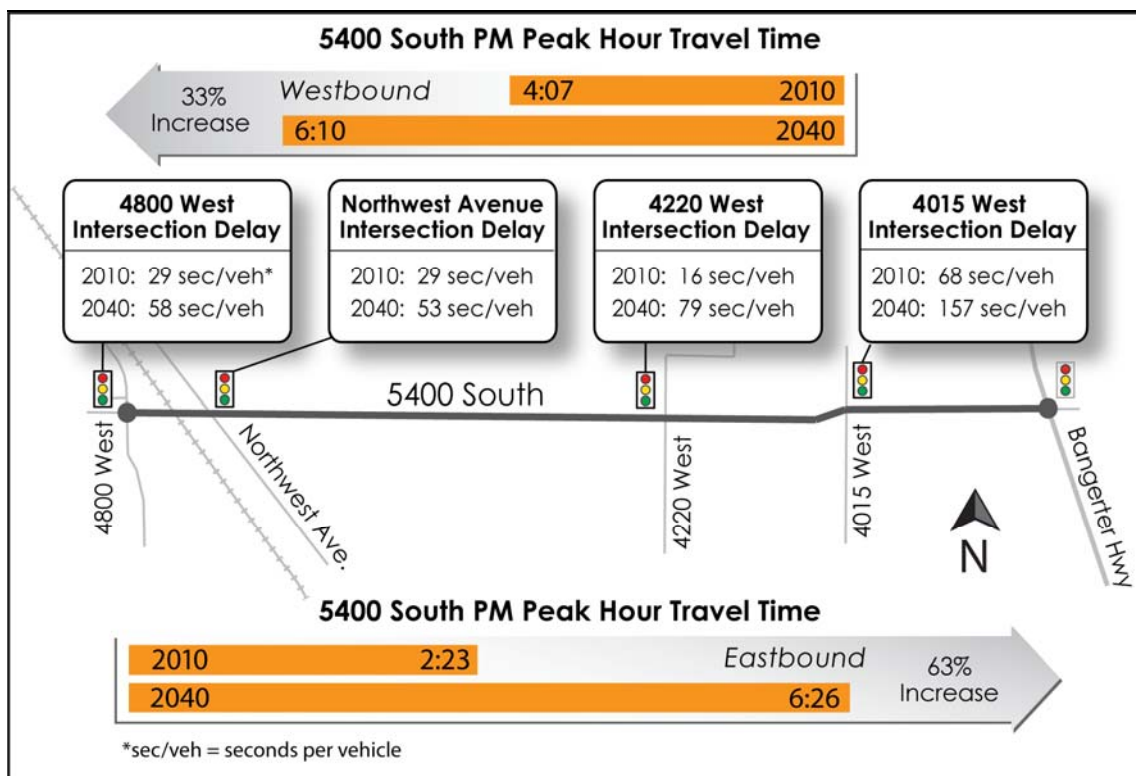
Figure 1-6 shows that between the years 2010 and 2040 the roadway LOS on 5400 South will deteriorate for eastbound travelers between Northwest Avenue and 4220 West. This decline in service, from A/B to E/F, is due to increased traffic volumes and insufficient capacity at the 4015 West and 5400 South intersection. In the year 2040, 5400 South will have a large volume of east-west traffic, and 4015 West will have a large volume of north-south traffic. Where these roadways meet, the intersection will operate

at an unacceptable LOS because each roadway will require more green signal time to allow vehicles through the intersection than can be provided. Eastbound vehicles unable to get through the intersection will end up backing up on 5400 South to the 4220 West and 5400 South intersection, causing a chain reaction of delay and congestion along the corridor.

Westbound traffic demand will also increase by the year 2040, but the 4015 West and 5400 South intersection will act as a bottleneck and allow only 75 percent of westbound traffic through the intersection. Westbound traffic on 5400 South will back up from the 4015 West and 5400 South intersection past Bangerter Highway. **Figure 1-6** only illustrates acceptable westbound LOS on 5400 South between 4015 West and 4800 West because 25 percent of the traffic demand will not get through the 4015 West intersection. If future traffic demand could be served, the LOS along the corridor would be worse than current conditions. Additionally, the 4800 West and 5400 South intersection will operate at an unacceptable LOS due to the convergence of heavy through traffic and left turns from 5400 South onto 4800 West.

In the year 2010, vehicles waited more than one minute on average at the 4015 West and 5400 South intersection during the PM peak hour. The delay in the year 2040 is anticipated to average almost three minutes (**Figure 1-7**). By the year 2040, average travel times are expected to increase by 33 to 63 percent for this one mile section of 5400 South (**Figure 1-7**). This delay is a substantial increase over existing conditions, demonstrating a need for improvements to 5400 South.

Figure 1-7: PM Peak Travel Times and Intersection Delay



Source: Avenue Consultants 2011

1.3.2 Regional Mobility

There are two components of mobility: capacity and connectivity. Improvements to regional mobility can occur if new connections in the transportation network are made or if the capacity of the existing connections is increased to serve more vehicles.

WFRC traffic demand modeling shows a strong demand, both now and continuing into the future, for travel between the southwest and the northeast portions of the Salt Lake Valley. Currently, there are few high-capacity, east-west roadways on the west side of the Salt Lake Valley to accommodate these trips. 5400 South is one of the east-west roadways that provides a vital east-west link in the regional transportation network. Traffic is drawn to this section of 5400 South for two reasons.

- **Lack of capacity on east-west routes:** West of Bangerter Highway, I-80 and SR-201 are the only access controlled east-west roads with three or more lanes in each direction. These roads are more than five miles north of 5400 South. Since there are no east-west highways south of SR-201, east-west traffic in the Salt Lake Valley relies on arterials such as 3500 South, 4700 South, 5400 South, and 7800 South, which are generally spaced 1-2 miles apart. As previously shown on **Figure 1-4**, widening is planned for each arterial to accommodate future east-west traffic demand. However, even with the widening of other east-west arterials, the 2040 No Build conditions show 5400 South will also need to be widened to accommodate travel demand.
- **Connectivity with major transportation facilities:** 5400 South serves as an east-west connection between all of the major north-south transportation facilities on the west side of the Salt Lake Valley, including SR-111, Mountain View Corridor (which is anticipated to terminate at 5400 South by the year 2013 and continue north in future phases), Bangerter Highway, and I-15. Additionally, UDOT is completing the Flex Lanes project on 5400 South east of Bangerter Highway, which will provide more peak-hour, peak-direction capacity and serve regional east-west traffic. UDOT and Federal Highway Administration (FHWA) are also currently studying potential options to improve connectivity to I-215 in this area. This connectivity improves regional mobility.

1.3.3 Safety

The crash history on 5400 South in the study area was evaluated in an Operational Safety Report (OSR) completed by UDOT in 2010. Crash data for the years 2006, 2007, and 2008 indicate that the crash rate on 5400 South in the study area is double that of roadways with similar characteristics, though the severity of the crashes on 5400 South is low. The combination of the high crash rate and the low severity of the crashes are indicative of a road that experiences congestion. A reduction in congestion along the corridor would likely contribute to a reduction in accident rates and a safer roadway.

CHAPTER 2 ALTERNATIVES

The alternatives development and screening process included four steps (**Figure 2-1**). Each step of the process involved analysis, recommendations, and validation from a multidisciplinary study team composed of environmental, engineering, and traffic professionals. UDOT designed each alternative to an extent that allowed for a conceptual assessment of operational performance and impacts.

Chapter 2 documents the process and results for:

- *Alternatives identification,*
- *Preliminary alternatives screening,*
- *Purpose and need screening,*
- *Alternatives comparison, and*
- *Identification of the preferred alternative.*

Figure 2-1: Alternatives Development and Screening Process



2.1 STEP 1: IDENTIFY ALTERNATIVES

Following development of the purpose and need, the study team developed nine build alternatives. In developing the alternatives, the following sources of information were considered:

- The Wasatch Front Regional Council (WFRC)'s *Regional Transportation Plan*, 2007-2030 (2030 RTP) (WFRC 2007);
- The Kearns Township General Plan (Kearns 2009); and
- Public comments gathered from the Kearns Township Community Council and a public open house. (Chapter 4 discusses the scoping process.)

2.1.1 No Build Alternative

The No Build Alternative was considered to provide a baseline for evaluating future (year 2040) traffic conditions and for comparing impacts with the other alternatives. Under the No Build Alternative, 5400 South would continue to operate as a five-lane roadway (two travel lanes in each direction with a center turn lane) from 4015 West to 4800 West, and a seven-lane roadway (three travel lanes in each direction

with a center turn lane) from Bangerter Highway to 4015 West (**Figure 1-2** of Chapter 1). It is assumed that improvements planned in the 2030 RTP, other than widening 5400 South, would be implemented. These improvements include widening of 4700 South, 3500 South, 7800 South, State Route [SR]-111, and construction of the Mountain View Corridor (**Figure 1-4** of Chapter 1).¹

Under the No Build Alternative, the intersections at 4015 West and 5400 South, 4220 West and 5400 South, and 4800 West and 5400 South will operate at Level of Service (LOS) E or worse in year 2040 (**Figure 1-6** of Chapter 1). The intersection of 4015 West and 5400 South will act as a bottleneck, allowing only 75 percent of westbound traffic through the intersection. Chapter 1 provides more details regarding the year 2040 No Build traffic conditions.

2.1.2 Build Alternatives

Nine build alternatives were developed that represent a range of roadway improvement options.

- **Alternative 1:** Widen 4700 South to seven lanes (about 135 feet wide) between Bangerter Highway and 4800 West.
- **Alternative 2:** Intersection improvements at 4015 West and 4800 West with associated widening of 5400 South to seven lanes between 4015 West and 4220 West, then transitioning back to the existing roadway cross section from 4220 West to 4800 West.
- **Alternative 3:** Intersection improvements at 4015 West and 4800 West with associated widening of 5400 South to seven lanes between 4015 West and 4220 West. Additional widening of 5400 South between 4220 West and 4800 West to improve shoulders and sidewalks along the corridor.
- **Alternative 4:** Widen 5400 South to seven lanes (about 135 feet wide) on the north side and provide intersection capacity improvements at 4015 West and 4800 West.
- **Alternative 5:** Widen 5400 South to seven lanes (about 135 feet wide) on the south side and provide intersection capacity improvements at 4015 West and 4800 West.
- **Alternative 6:** Widen 5400 South to seven lanes (about 135 feet wide) on the south side from 4015 West to approximately 4620 West and on the north side from 4620 West to 4800 West. Alternative 6 would also provide intersection capacity improvements at 4015 West and 4800 West.
- **Alternative 7:** Widen 5400 South to a standard five-lane cross section (four travel lanes and turn lane that cannot be used as a travel lane) with shoulders and sidewalks (about 110 feet wide) and operate the roadway with Flex Lanes.
- **Alternative 8:** Widen 5400 South to a six-lane cross section (about 120 feet wide with five travel lanes and turn lane that cannot be used as a travel lane) and operate the roadway with Flex Lanes.
- **Alternative 9:** Widen 5400 South to a seven-lane cross section (about 135 feet wide with six travel lanes and a turn lane that cannot be used as a travel lane) and operate the roadway with Flex Lanes.

¹ Year 2040 socio-economic conditions prepared by WFRC were used in the WFRC regional transportation model to predict future traffic conditions. Planned transportation projects from the 2030 RTP were assumed since a plan for year 2040 transportation improvements has not yet been adopted by WFRC.

2.2 STEP 2: PRELIMINARY SCREENING

Preliminary screening was a qualitative step using professional judgment and knowledge of traffic operations in the study area and surrounding region. During this step, the study team determined if the nine alternatives could provide sufficient capacity on 5400 South to meet 2040 traffic demand.

2.2.1 Preliminary Screening Results

Operational performance for Alternative 1, 7, 8, and 9 was derived from the 2040 No Build conditions, and alternative specific modeling was unnecessary. A description of how operational conditions were derived for these alternatives is as follows.

- **Alternative 1:** As discussed in Chapter 1, 2040 No Build traffic conditions assumed 4700 South was already widened to seven lanes as defined in the 2030 RTP. Even with the widening of 4700 South, 5400 South would not operate at an acceptable LOS, as shown in **Figure 1-6** of Chapter 1. Therefore, this alternative was eliminated from consideration.
- **Alternative 7:** The five-lane Flex Lane configuration includes three lanes operating in the peak direction and one lane operating in the non-peak direction, with a center turn lane. As shown in **Figure 1-6** of Chapter 1, under the 2040 No Build conditions the non-peak directional traffic (eastbound) during the PM peak period would operate at LOS E or F. Alternative 7 would reduce capacity in the non-peak direction, and would operate worse than the No Build condition in the non-peak direction. Therefore, this alternative was eliminated from consideration.
- **Alternative 8:** The six-lane Flex Lane configuration includes three lanes operating in the peak direction and two lanes operating in the non-peak direction, with a center turn lane. As shown in **Figure 1-6** of Chapter 1, under the 2040 No Build conditions the non-peak directional traffic (eastbound) during the PM peak period would operate at LOS E or F. Alternative 8 would not increase capacity in the non-peak direction and would operate the same as the No Build condition in the non-peak direction. Therefore, this alternative was eliminated from consideration.
- **Alternative 9:** Seven-lane Flex Lanes (4 travel lanes in the peak direction and 2 travel lanes in the non-peak direction) was eliminated from consideration because the Flex Lanes would provide too much capacity in the peak direction and not enough capacity in the non-peak direction. Additionally, Flex Lanes would increase project costs and add complexity to roadway operations. Alternative 9 would have the same right-of-way requirements as any of the seven-lane alternatives.

2.3 STEP 3: PURPOSE AND NEED SCREENING

Each of the remaining five alternatives was screened to determine if the specific alternative would meet the design year 2040 traffic needs on 5400 South. This step was a quantitative step, using traffic modeling results to support decisions to eliminate or carry forward alternatives.

During this step, the study team applied the screening criteria defined below. If the alternative served the traffic needs defined in the criteria, it was advanced to the next step. An alternative was considered for further analysis only if the alternative met both of the screening criteria.

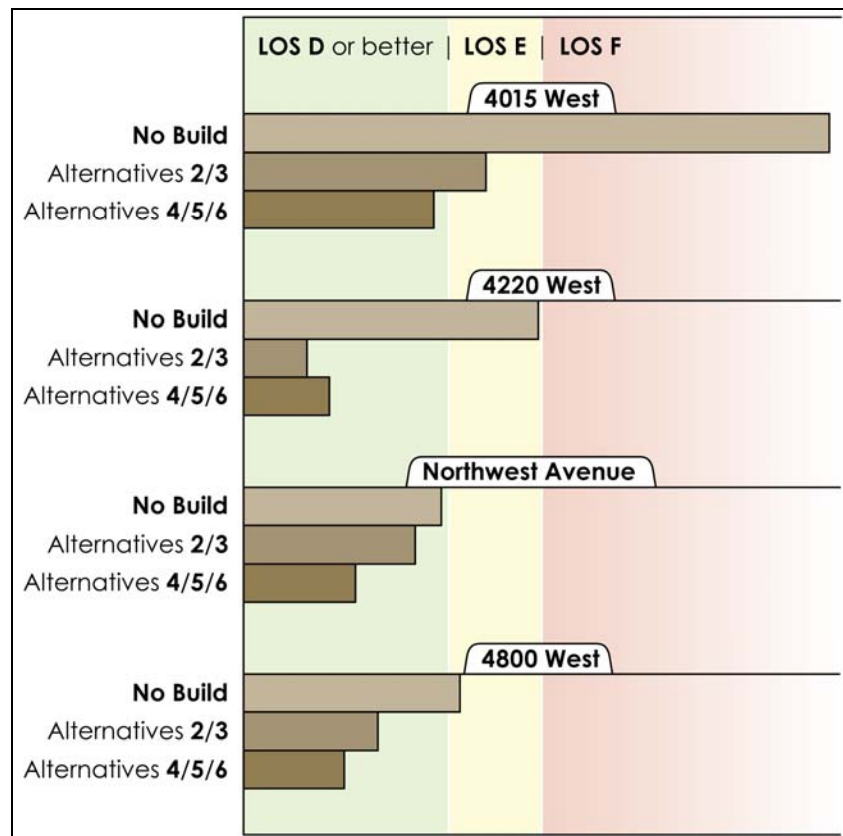
2.3.1 Purpose and Need Screening Criteria

The purpose and need screening criteria were developed to determine if an alternative could improve traffic conditions in support of the proposed project's primary purpose and need. Screening criteria were defined as follows:

- **Travel Demand:** Would the intersection LOS at all signalized intersections along the corridor operate at LOS D or better?
- **Regional Mobility:** Would the alternative be consistent with the system phasing plan identified in the 2030 RTP and effectively facilitate connections to the rest of the transportation network?

Project-level traffic modeling was conducted for five of the alternatives and the information is documented in the *5400 South – Bangerter Highway to 4800 West Traffic Evaluation & Concept Report* (Avenue Consultants 2011) and summarized in **Figure 2-2**. Alternative 2 and 3 would operate the same and were modeled as one alternative. Alternatives 4, 5, and 6 would operate the same and were modeled as one alternative.

Figure 2-2: Design Year 2040 Level of Service for 5400 South Intersections by Alternative



Source: Avenue Consultants 2011

2.3.2 Purpose and Need Screening Results

Based on the results of the traffic evaluation, it was determined that Alternatives 4, 5, and 6 were the only alternatives that would improve 5400 South operations to LOS D or better at each of the intersections along the corridor. These three alternatives met the traffic demand component of the purpose and need of the proposed project.

It was determined that Alternatives 4, 5, and 6 were the only alternatives that would be consistent with the 2030 RTP system phasing plan and effectively facilitate the connections with the rest of the transportation network by providing the capacity specified in the 2030 RTP. These three alternatives met the regional mobility component of the purpose and need of the proposed project.

Table 2-1 summarizes the purpose and need screening results and justification for screening alternatives.

Table 2-1: Purpose and Need Screening Results Summary

Alternatives Considered	Would the alternative serve traffic demand?	Would the alternative improve regional mobility?	Why Eliminated/ Advanced?	Alternative Advanced?
Alternative 2	No. The intersection of 4015 West and 5400 South would operate at LOS E.	No. The 2030 RTP anticipates widening 5400 South to seven lanes. Providing additional intersection capacity would improve traffic conditions on 5400 South but not to the extent anticipated in the 2030 RTP.	Traffic modeling suggests the alternative would not effectively reduce congestion on 5400 South.	No
Alternative 3	No. The intersection of 4015 West and 5400 South would operate at LOS E.	No. The 2030 RTP anticipates widening 5400 South to seven lanes. Providing additional intersection capacity would improve traffic conditions on 5400 South but not to the extent anticipated in the 2030 RTP.	Traffic modeling suggests the alternative would not effectively reduce congestion on 5400 South.	No
Alternative 4	Yes. 5400 South would operate at LOS D or better.	Yes. Improvements to 5400 South are consistent with the phasing in the 2030 RTP and tie into the regional transportation network.	The alternative would effectively reduce congestion on 5400 South and would improve regional mobility.	Yes
Alternative 5	Yes. 5400 South would operate at LOS D or better.	Yes. Improvements to 5400 South are consistent with the phasing in the 2030 RTP and tie into the regional transportation network.	The alternative would effectively reduce congestion on 5400 South and would improve regional mobility.	Yes
Alternative 6	Yes. 5400 South would operate at LOS D or better.	Yes. Improvements to 5400 South are consistent with the phasing in the 2030 RTP and tie into the regional transportation network.	The alternative would effectively reduce congestion on 5400 South and would improve regional mobility.	Yes

Notes: Shaded cells represent alternatives that were advanced to the next level of screening.

2.4 STEP 4: COMPARATIVE EVALUATION

Following the purpose and need screening process, engineering and environmental considerations defined below were evaluated for each alternative. Alternatives were not eliminated based on poor performance related to any single engineering or environmental issue. Rather the performance of the alternative as a whole was evaluated.

2.4.1 Comparative Evaluation Considerations

2.4.1.1 Engineering Considerations

Engineering considerations are important to maintain operational performance, to maintain Utah Department of Transportation (UDOT) and American Association of State Highway and Transportation Officials (AASHTO) design standards, and to present a constructible improvement. Conceptual designs and engineering judgment were used to evaluate the engineering aspects of the alternatives, with the following topics considered.

- **Design Standards:** Compliance with UDOT and AASHTO standards (e.g., design speed, lane width, shoulder width, grade, cross slope).
- **Roadway Classification:** Removal of accesses to better comply with roadway classification standards. (5400 South is classified as a Category 3 roadway. Standards for this type of facility include no un-signalized intersections, no un-signalized accesses, and half-mile spacing between intersections. The roadway currently does not meet these standards, so proposed project elements that better meet the Category 3 definition were viewed as improvements.)
- **Utility Impacts:** Conflicts with utilities identified on as-built drawings obtained from utility owners.
- **Cost of Construction:** Preliminary engineering cost estimates were used to compare the order of magnitude cost differences between alternatives.

2.4.1.2 Environmental Considerations

Environmental considerations were based on potential impacts the alternative could have on the built environment, and based on public comments indicating important community concerns.

- **Relocations:** The number and type of relocations that would occur in the study area and the resulting effect on the community.
- **Historic Resources:** The number of historic buildings constructed within the historic time period that would be impacted by the project.
- **Community Facilities:** The number of community facilities such as churches, the fire station, and the police station impacted by the project.
- **Economics:** Impacts to the Kearns Township tax base resulting from relocations.

2.4.2 Comparative Evaluation Results

2.4.2.1 Engineering Consideration Results

From an engineering standpoint, Alternative 6 performed the best (**Table 2-2**). Alternative 6 had the lowest cost, eliminated the most accesses along the corridor, had fewer utility impacts, and would comply with UDOT and AASHTO standards. The other two alternatives (Alternative 4 and 5) did not perform as well from the standpoint of cost or elimination of accesses.

Table 2-2: Alternatives Comparison: Engineering Considerations

Alternatives Considered	Design Standards	Roadway Classification	Utility Impacts	Cost of Construction
Alternative 4	Complies with standards.	Eliminates 49 accesses along the corridor, improving consistency with Category 3 classification.	Highest. Impacts to an electrical transmission line.	Highest (baseline + \$7 million)
Alternative 5	Complies with standards.	Eliminates 47 accesses along the corridor, improving consistency with Category 3 classification.	Lowest. Avoids electrical transmission line.	Moderate (baseline + \$4 million)
Alternative 6	Complies with standards.	Eliminates 61 accesses along the corridor, improving consistency with Category 3 classification.	Moderate. Impacts part of the electrical transmission line.	Lowest (baseline cost)

Design Standards

All three alternatives could be designed in accordance with UDOT and AASHTO standards.

Roadway Classification

Alternative 6 would eliminate the most accesses along 5400 South. Elimination of accesses was viewed positively since the new roadway would more closely meet the standards for a Category 3 roadway by improving safety and reducing congestion.

Utility Impacts

There are a number of utilities located within the study area, including electrical (transmission and distribution lines), sewer, water, and gas. The most significant utility impact was relocation of the electrical transmission line. Relocation of the transmission line poles would impact the proposed project's schedule and cost as well as affect adjacent land owners. Alternative 5 would have the lowest utility impact since it would not impact the transmission lines.

Construction Cost

Preliminary engineering cost estimates were used to compare the order of magnitude cost differences between alternatives. The lowest cost alternative was considered the "baseline cost." The actual construction cost may vary from the preliminary cost, but the preliminary estimates provided a basis for comparing alternatives. Alternative 6 was less expensive than the other alternatives due to lower right-of-way costs and moderate utility costs.

2.4.2.2 Environmental Consideration Results

Alternative 5 performed the best from an environmental standpoint since there were fewer residential relocations, fewer historic resource impacts, and only one displacement of a community facility (Table 2-3).

Table 2-3: Alternatives Comparison: Environmental Considerations¹

Alternatives Considered	Relocations	Historic Resources	Community Facilities	Economics
Alternative 4	14 Businesses 31 Residences 4 Community Facilities	31 Buildings	Displaces four important community facilities that serve the community.	Displaces 16 businesses.
Alternative 5	14 Businesses 32 Residences 1 Community Facility	32 Buildings	Displaces one community facility that serves the community.	Displaces 16 businesses.
Alternative 6	7 Businesses 54 Residences	54 Buildings	No community facilities would be displaced.	Displaces 9 businesses.

¹ Table results are based on the preliminary design of alternatives. Impacts were identified for comparative purposes. As the design of the preferred alternative has progressed some of the impacts have changed. The actual impacts of the preferred alternative are documented in Chapter 3.

Relocations

Alternative 4 would result in the relocation of properties on the north side of 5400 South. Alternative 5 would result in the relocation of properties on the south side of 5400 South. Alternative 6 would result in relocations on a portion of the north and south sides. Alternative 6 would affect more residences than the other alternatives, but it would affect fewer businesses and avoid major community facilities.

Historic Resources

All of the residences along 5400 South are within the historic time period. Therefore, for purposes of alternatives analysis, all of the residences were considered to be potentially eligible for the National Register of Historic Places. While all of the alternatives would affect historic resources, Alternative 6 would impact substantially more historic resources than Alternative 4 or 5.

Community Facilities

There are five major community facilities along 5400 South in the study area, including three churches that act as important meeting places for the broader community and centrally located police and fire stations that serve the Kearns Township. Alternative 6 was the only alternative that avoided all of these major community facilities

Economics

Kearns Township has a relatively small tax base with a total of 9,800 households and 139 acres of commercial area. Property values in Kearns Township are lower on average than the rest of Salt Lake County. Consequently, tax revenues are lower, but the demand for the provision of services is the same as

in other areas where property values are higher. Further, there are only a few commercially-dedicated areas in Kearns Township, and businesses are the largest contributors to the tax base since they typically provide more tax revenue than they require in Salt Lake County-provided services. Therefore, business relocations could potentially have a larger impact on the Kearns Township tax base than relocation of residential properties. In all, Alternative 6 had the fewest number of business relocations.

2.5 PREFERRED ALTERNATIVE

Of the three remaining alternatives (Alternative 4, 5, and 6), the study team determined that Alternative 6 performed the best from an engineering standpoint, and Alternative 5 performed the best from an environmental standpoint. Ultimately, the study team selected Alternative 6 as the preferred alignment, but modified it by reducing the 135 foot wide cross section to about 100 feet. The reduction in the width of the cross section decreased the number of residential relocations to be more consistent with Alternative 5. This modified version of Alternative 6 was selected as the preferred alternative, and is referred to as the Build Alternative throughout the SES.

The Build Alternative includes widening 5400 South to seven lanes (three travel lanes in each direction, with a center turn lane) with new, wider sidewalks along both sides of 5400 South. Intersection improvements would occur at 4015 West and 5400 South and at 4800 West and 5400 South to increase intersection capacity. Intersection improvements at 4015 West and 5400 South include dual left turns or ThrU-Turns. The ThrU-Turn concept (shown on **Figure 2-3**) would eliminate all left turns at the intersection of 4015 West and 5400 South. Drivers on 5400 South would turn right onto 4015 West, and then make a u-turn at a new signalized intersection on 4015 West. Drivers on 4015 West desiring to make a left turn would continue past 5400 South, then make a u-turn at a new signalized intersection, then make a right turn onto 5400 South. A third u-turn on 5400 South west of 4015 West would provide additional accommodation of westbound to southbound movements and southbound to eastbound movements.

The ThrU-Turn intersection was selected as part of the Build Alternative because it increases intersection efficiency and capacity. The ThrU-Turn intersection provides more green time for the vehicles traveling through the intersection, which decreases congestion, accommodates more vehicles, and reduces overall intersection delays by up to 75 seconds per vehicle. The signals at the u-turn locations are coordinated with the signal at the main intersection, which will function as a system to minimize delays at each intersection.

Additionally the ThrU-Turn reduces potential traffic and safety impacts to the surrounding community by reducing vehicle conflicts and minimizing intersection widths. Concerning motorists, it is reported that 30 percent fewer accidents occur with the implementation of similar intersection solutions, making the ThrU-Turn intersection a safer intersection with fewer vehicle conflicts (FHWA 2009). Concerning pedestrians, minimizing intersection width increases pedestrian safety by reducing the amount of time needed to cross the intersection. Furthermore, vehicles do not turn left through the intersection's crosswalks, providing an even safer experience for pedestrians.

The northern leg of the ThrU-Turn intersection on 4015 West would be located in front of Kearns Junior High School. Although the ThrU-Turn intersection would result in increased traffic volumes near the school, it is anticipated that the intersection would actually increase pedestrian safety at this location

because crosswalks across 4015 West and Sam's Boulevard would be signalized. Students would also have safe and reliable crosswalks with less potential for uncontrolled vehicle conflicts. In combination with crosswalk re-establishment, designated walking routes would be established in coordination with Kearns Junior High School. Additionally, a third leg of the ThrU-Turn intersection has been added on 5400 South to reduce traffic volumes using the northern leg of the ThrU-Turn near the school (see **Figure 2-3**). Overall, it is expected that ThrU-Turn will be a safer intersection for both motorists and pedestrians.

The Build Alternative also includes a new intersection planned at 3900 West and 5400 South to improve accessibility to adjacent land uses. Improvements along the corridor may occur with initial construction or may be phased in at a later date.

The Build Alternative is shown in **Figure 2-3**, and the impacts of the Build Alternative are discussed further in Chapter 3.

Figure 2-3: Proposed Build Alternative



CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The purpose of this chapter is to provide the information necessary to understand the beneficial and adverse impacts of the proposed widening project to the built and natural environment. The chapter is divided into sections that discuss resources that could be affected by both the No Build and Build Alternative. Each section includes a discussion of the applicable regulations, study area; affected environment; environmental consequences; and avoidance, minimization, and/or mitigation specific for that resource. Relevant to all sections of Chapter 3, the study area is urban and fully planned and zoned by the City of Taylorsville and by Salt Lake County for Kearns Township. The study area is built out with few undeveloped parcels.

The analysis for this State Environmental Study (SES) included information gathered from agency and public input received during the public scoping process, a review of available data, and field investigations. The environmental resources known to exist or potentially could exist in the study area are addressed in the following sections.

- 3.1: Land Use
- 3.2: Social
- 3.3: Relocations
- 3.4: Economics
- 3.5: Bicyclist and Pedestrian Considerations
- 3.6: Water Resources
- 3.7: Natural Resources
- 3.8: Air Quality
- 3.9: Noise
- 3.10: Hazardous Materials
- 3.11: Cultural Resources
- 3.12: Visual Quality

As part of the scoping and environmental analysis, additional environmental resources were considered. However, because it was determined that the Build Alternative would have no potential impact on these specified resources, there is no further discussion of farmlands or floodplains.

3.1 LAND USE

3.1.1 Regulations

The City of Taylorsville and Kearns Township/Salt Lake County regulate development and land uses in the study area according to the City of Taylorsville General Plan (Taylorsville 2006) and the Kearns Township General Plan (Kearns 2009). Policies, plans, and guidance from these plans relevant to the proposed widening project are discussed throughout this section and the SES.

The 5400 South study area is dominated by commercial land uses on its east end and residential uses on its west end. The Build Alternative would convert approximately 6 acres of residential, 3.5 acres of commercial, and less than 0.25 acres of institutional uses to transportation use. These changes would not violate any goals or policies in the Kearns Township General Plan and the City of Taylorsville General Plan.

3.1.2 Study Area

The study area for assessing land use impacts is the 5400 South corridor from Bangerter Highway to 4800 West, which includes a quarter-mile area around the corridor limits. A portion of the study area is located within the City of Taylorsville between Bangerter Highway and 4015 West. Between 4015 West and 4800 West, the study area is located within Kearns Township.

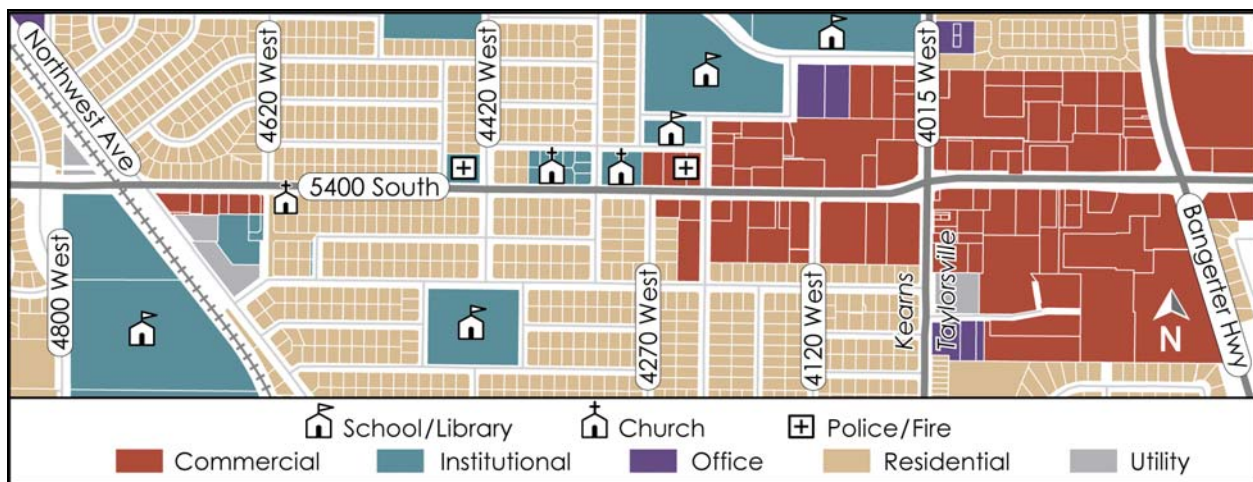
3.1.3 Affected Environment

3.1.3.1 Existing Land Uses

The City of Taylorsville was historically an agricultural area that has developed into a robust suburban, residential area with diverse commercial centers that have regional economic influence. According to the Transportation Section of the City of Taylorsville General Plan, 5400 South is a Principal Arterial that is a priority for east and west traffic. The area north and south of 5400 South, between Bangerter Highway and 4015 West, is zoned Regional Commercial. Regional Commercial land uses are large scale, big-box anchored retail and commercial centers. (Taylorsville 2006)

Kearns Township is within the jurisdiction of Salt Lake County and is primarily a residential, suburban community. The area north and south of 5400 South between 4015 West and Northwest Avenue was part of a master planned development that was constructed in the 1950s. 5400 South was planned as the main transportation corridor with commercial land uses near the 4015 West and 5400 South intersection providing retail services to the community. This land pattern has generally remained in place, although the commercial area and school near Northwest Avenue were developed at a later time (**Figure 3.1-1**). The Kearns Township General Plan refers to 5400 South as the primary gateway into Kearns Township (Kearns 2009).

Figure 3.1-1 Land Uses in the Study Area



Sources: Taylorsville 2006 and Kearns 2009

Other land uses within the study area include:

- Two elementary schools, one junior high school, and one high school;
- Three churches;
- A fire station and police station;
- Union Pacific Railroad (parallel to Northwest Avenue); and
- Various utilities.

3.1.3.2 Future Land Uses

Future land uses within both the City of Taylorsville and Kearns Township are referred to in each city's general plans. These general plans identify goals and policies for future improvements.

The City of Taylorsville General Plan emphasizes that the intersection of 4015 West and 5400 South should be an attractive gateway to the City that establishes the City boundary, specifically including signage oriented toward eastbound traffic (Taylorsville 2006). The General Plan also identifies the area north and south of 5400 South between 4015 West and Bangerter Highway as an economic development priority. The General Plan cites the need for access improvements and building renovations to accomplish this goal (Taylorsville 2006).

The Kearns Township General Plan refers to improvement of 5400 South as the second highest community goal (Kearns 2009). Projects identified in the General Plan include:

- Reestablishing a central business district along 5400 South that is focused primarily at the intersection of 4015 West and 5400 South.
- Performing a 5400 South corridor analysis to determine how it can function more efficiently as well as serve as an important public place for the community.
- Completing a storm water management plan that would provide guidance for mitigating against frequent flooding in the 5400 South commercial area. (Kearns 2009)

3.1.4 Environmental Consequences

Impacts on land uses were based on the potential for land use change to occur within the study area and on consistency with each city's general plans. Direct impacts on land use include the conversion of land from developed uses to transportation use. Consistency with general plans was determined based on planning information summarized in Section 3.1.3.

3.1.4.1 No Build Alternative

No impacts are anticipated for land use under the No Build Alternative as the study area is built out and is not expected to experience a change in development patterns from the existing configuration of 5400 South.

3.1.4.2 Build Alternative

The Build Alternative would require widening 5400 South by approximately 35 feet, which would convert about 6 acres of residential, 3.5 acres of commercial uses, and a quarter of an acre of institutional uses along 5400 South to transportation use. Because this is a small percentage of the overall land uses in Kearns Township, no impacts are expected as a result of the Build Alternative.

Changes in land use would occur entirely in Kearns Township, and these changes in land uses are consistent with and would not preclude implementation of recommendations in the Kearns Township General Plan. The plan recommends the redevelopment of the 5400 South corridor, including consolidating parcels into larger more usable development sites, protecting the edges of the remaining neighborhoods, and minimizing traffic access conflicts (Kearns 2009).

3.1.5 Avoidance, Minimization, and Mitigation Measures

No mitigation is required for land use.

3.2 SOCIAL

This section analyzes social conditions in the study area related to quality of life, including community character and cohesion, public services and facilities, and utilities.

3.2.1 Regulations

There are no applicable social regulations.

3.2.2 Study Area

The study area for assessing social impacts is the 5400 South corridor from Bangerter Highway to 4800 West, which includes a quarter-mile area around the corridor limits. This section focuses on the Kearns Township community because there would be no social impacts within the City of Taylorsville.

The proposed widening project is located in an urbanized area. The project would not result in substantial changes to community character and cohesion. The Veteran's Memorial located on the corner of 4015 West and 5400 South would have to be relocated. Additionally, there would be no negative impact on public services. A number of utilities may be relocated as a result of the Build Alternative, but these relocations would not affect utility services.

3.2.3 Affected Environment

3.2.3.1 Community Character and Cohesion

Community character is an attribute of a geographic area with identifiable characteristics that make it unique. Community cohesion is an attribute of a geographic area where segmentation or division of the area would reduce its desirability to current and future residents.

5400 South is an existing street that has served as a division between residential neighborhoods since the neighborhoods were planned and developed in the 1950s. The north side of 5400 South was developed independently of the south side, and each side generally maintains separate church and school facilities.

The eastern portion of the corridor has historically been the location of important community and commercial services (Section 3.4).

The demographic profile of the Kearns Township assists in understanding the characteristics of the community. Demographic information is referenced from the Kearns Township General Plan (Kearns 2009) and the United States Census (U.S. Census 2000). Data from the 2010 U.S. Census are not yet available and, as such, is not discussed.

- **Population:** In the year 2000, Kearns Township had a population of 33,659. In the year 2007, the total population decreased slightly to 32,237 due to the annexation of parts of Kearns Township to the cities of West Jordan and West Valley. The Kearns Township General Plan and the Wasatch Front Regional Council (WFRC) population projections do not anticipate future population growth in the township, since there is little undeveloped land in the township. (Kearns 2009)
- **Age:** The low median age (26.1 years) and the relatively high average household size (3.65 persons) indicate that there are many young families in the community. However, demographic projections also show a decline in the future population, indicating that a large segment of the population is aging and their children are leaving home. (Kearns 2009)
- **Homeownership:** Kearns Township has a higher percentage of owner-occupied homes in comparison to Salt Lake County, the State of Utah, and the U.S. Nearly 89 percent of the occupied homes in Kearns Township are owner-occupied. Also, there are few vacant homes within the Kearns Township boundaries (2.2 percent) (Kearns 2009). Many of the residents that attended the proposed widening project's public open house indicated that they had lived in the area for many years.
- **Race and Ethnicity:** The study area is racially and ethnically diverse. Census data indicate that nearly a quarter of the township's population is not Caucasian (U.S. Census 2000). To this fact, the three churches along the 5400 South corridor offer services in Tongan, Vietnamese, or Spanish.
- **Income and Poverty:** The median income for the Kearns Township is similar to the State of Utah's median income, although it is somewhat lower than the median income for Salt Lake County. However, Kearns Township has a smaller percentage of individuals below the poverty level in comparison to Salt Lake County, the State of Utah, and the country (Kearns 2009)

3.2.3.2 Community Facilities and Services

Community facilities in the study area consist of a library, schools, churches, public safety facilities, and recreation facilities.

Library and Schools

The Kearns Library is located just north of the study area on 4220 West and is part of the Salt Lake County Library System. There are four public schools in the study area: two elementary schools, one high school, and one junior high school, all of which are within the Granite School District.

Churches

There are three churches along 5400 South.

- **Trinity United Methodist Church:** The 270-member church provides a number of programs for the community (e.g., Boy Scouts, Girl Scouts, Alcoholics Anonymous, Narcotics Anonymous) and includes a Tongan congregation.
- **Lady of Perpetual Help Parish Vietnamese Catholic Parish:** This parish is the only Vietnamese Parish in the Salt Lake Valley and attracts worshipers from the cities of Ogden to Provo.
- **Church of Jesus Christ of Latter Day Saints (LDS):** This church facility serves as a stake center for seven ward congregations and is the weekly meeting house for two ward congregations.

Public Safety Facilities

There are two public safety buildings in the study area. Both are located on 5400 South and use the corridor as an emergency response route.

- **Unified Police of Greater Salt Lake Kearns Precinct** (4250 West 5415 South): This precinct is centrally located and serves the entire Kearns Township.
- **Salt Lake Unified Fire Authority Station #109** (4444 West 5415 South): This station is centrally located and serves most of the Kearns Township. (Kearns 2009)

Recreation Facilities

There are three recreation facilities within Kearns Township:

- **Kearns Recreation Center** (5670 South Cougar Lane): This facility is operated by Salt Lake County and provides full-time child care, sports programs, classes, and community events.
- **Oquirrh Park Fitness Center** (5624 Cougar Lane): This facility is operated by the Kearns Township Improvement District and provides a fitness center, tennis courts, aquatic facilities, and a park and playground.
- **Utah Olympic Oval** (5662 Cougar Lane): Facilities include multiple ice rinks, an indoor running track, and an indoor soccer field.

Veteran's Memorial

Kearns Township was developed on the site of Camp Kearns, an Army Air Forces base during World War II. To commemorate that history and to honor veterans, a cannon was installed by the Lions and American Legion on the southwest corner of 4015 West and 5400 South with a memorial plaque naming soldiers from Kearns Township that were killed in action.

3.2.3.3 Utilities

The utilities within the study area were identified by collecting utility mapping information from the utility owners within the potentially affected area (**Figure 3.2-1**).

Figure 3.2-1: Utilities along 5400 South



Electricity

Rocky Mountain Power (a division of PacifiCorp) provides electricity to the study area, largely by overhead transmission and distribution lines along the north side of 5400 South. Rocky Mountain Power also operates an electrical substation on Northwestern Avenue just south of 5400 South.

Water and Sewer

Kearns Township Improvement District provides culinary water and sewer services for the study area. The improvement district purchases 90 percent of their water from the Jordan Valley Water Conservancy District. The remaining 10 percent of the culinary water is delivered through 12 wells located in the Kearns Township area, including a well located on the northeast corner of 5400 South and 4800 West. (Kearns District 2009)

Kearns Township Improvement District has developed a Source Protection Plan that contains information about source protection zones, potential contamination sources, and management strategies to protect drinking water (Hansen 2003). The plan indicates the major roadways where hazardous materials are transported, and the potential risk hazardous material transportation can pose to drinking water. However, wells operated by the Improvement District have a low susceptibility to potential contamination, and the Improvement District has developed management strategies to protect water sources from contamination. (Kearns District 2009)

An eight-inch water line runs along the south side of 5400 South for the length of the alignment. Sewer lines intermittently run along the north and south sides of 5400 South.

Natural Gas

Natural gas lines within the study area are owned and operated by Questar Gas. The primary gas line in the study area intermittently runs along the north and south sides of 5400 South with distribution lines branching out from the main line.

3.2.4 Environmental Consequences

Environmental consequences to social resources are generally the result of disruptions to the community character and cohesion, impacts to community facilities and services, and disruptions and relocations of utilities.

3.2.4.1 No Build Alternative

No impacts are anticipated for social conditions under the No Build Alternative.

3.2.4.2 Build Alternative

Community Character and Cohesion

Transportation uses generally serve as boundaries to divide communities. 5400 South has traditionally been a boundary in the Kearns Township community, and the Build Alternative will continue to establish that boundary by providing a wider roadway that accommodates higher traffic volumes. Additionally, changes to land uses along the corridor would change the visual appearance and feel of the corridor as well as eliminate some of the businesses that provide services to the local community. Overall, these changes are minor and are not expected to have impacts on social relationships, isolate communities, or reduce/change patterns of interaction between a cohesive neighborhood or group.

Furthermore, the proposed widening project may have beneficial impacts on community character and cohesion. 5400 South is currently vehicle-oriented, and pedestrian amenities are deficient (Section 3.5), which limit the cohesive nature of community centers. The Build Alternative would improve sidewalks and may encourage pedestrian activity and uses along the corridor. Improved sidewalks would also increase the accessibility of the many community facilities and services located in the study area.

Community Facilities and Services

There are a number of community facilities located in the study area, and 5400 South provides important vehicle and pedestrian access to those facilities. The Build Alternative has been designed to avoid the relocation of the community facilities located along the corridor. Beyond this, the Build Alternative would have a beneficial impact on the churches, schools, library, and other community facilities by improving sidewalks and pedestrian access. Reduction in congestion and corridor travel time is also anticipated to benefit police and fire emergency response times.

The Veteran's Memorial on the corner of 4015 West and 5400 South would have to be relocated as a result of the proposed widening project. The memorial is not specifically associated with the land that it currently occupies, and it is anticipated that a new location for the memorial could be found.

Utilities

Utility impacts would occur if the Build Alternative conflicts with an existing utility line, resulting in a relocation of or modification to the utility. Potential impacts that have been identified in the preliminary design phase are discussed below. UDOT and/or its contractors would coordinate with utility providers that may be affected by construction to minimize service disruptions. Some utilities may be relocated

during construction; however, upon completion of construction, the function of existing utilities would be restored.

- The Build Alternative would require the relocation of the electrical transmission/distribution lines located on the north side of 5400 South in the vicinity of the 4015 West and 5400 South intersection and between 4620 West and Northwest Avenue. Power lines would be relocated just north of their current location. Most of the power lines along the corridor would not be affected by the Build Alternative. During construction, temporary power outages may occur, but these outages would not be widespread and would be brief in duration.
- The Build Alternative would have no effect on the culinary water well located at the northeast corner of 5400 South and 4800 West. 5400 South would remain the same distance from the well as it currently is. The Build Alternative would be consistent with the Source Protection Plan prepared by the Kearns Township Improvement District.
- The Build Alternative would require the relocation of the culinary water line located on the south side of 5400 South. During construction, temporary disruptions of culinary water service may occur, but these outages would not be widespread and would be brief in duration.
- Some portions of the sewer located within the 5400 South corridor may be relocated due to construction of the Build Alternative. This would be dependent on the depth of the sewer line and the potential for conflicts during construction. If sewer lines are replaced, the elevation of the sewer would be maintained to preserve the gravity flow of the facility. The provision of sewer services is not anticipated to be disrupted by construction.
- Some portions of natural gas lines located within the 5400 South corridor may be relocated due to construction of the Build Alternative. This would be dependent on the depth of the gas lines and the potential for conflicts during construction. Natural gas distribution is not anticipated to be disrupted by construction.

3.2.5 Avoidance, Minimization, and Mitigation Measures

Utah Department of Transportation (UDOT) would coordinate with Kearns Township Community Council, Salt Lake County, and other interested parties regarding the relocation of the Veteran's Memorial located at 4015 West and 5400 South.

3.3 RELOCATIONS

This section analyzes acquisitions and relocations that would be required under the Build Alternative.

The Build Alternative would require the relocation of 38 residences, relocation of 8 businesses, and partial acquisition of 22 properties.

3.3.1 Regulations

In acquiring properties, UDOT abides by the provisions of the Utah Relocation Assistance Act, which compensates owners for property acquisition. The purpose of the Utah Relocation Assistance Act is to establish a uniform policy for the fair and equitable treatment of persons displaced by the acquisition of real property by state or local land acquisition programs. (Utah Code Section 57-12-2)

3.3.2 Study Area

The study area for assessing relocations and acquisitions include parcels adjacent to 5400 South from Bangerter Highway to 4800 West. In addition, properties adjacent to 4015 West from 5115 South to 5580 South are included in the study area.

3.3.3 Affected Environment

Parcel data was obtained to identify specific properties that potentially require acquisition and/or relocation. Most of the properties adjacent to 5400 South are privately owned. Many of the buildings along 5400 South are setback from the roadway 40 feet or less.

3.3.4 Environmental Consequences

3.3.4.1 No Build Alternative

No relocations or acquisitions would occur under the No Build Alternative.

3.3.4.2 Build Alternative

Based on preliminary design of the Build Alternative, 68 properties along 5400 South and along 4015 West would potentially be impacted for road widening and intersection improvements. Continuing engineering efforts may result in some changes to property impacts and acquisitions. Of the 68 affected properties:

- Full acquisition of 46 properties would be required; and
- Partial acquisition of 22 properties would be required.

A full acquisition occurs when UDOT purchases a property in full, pays the owner for the property, and relocates the current use of the property. A partial acquisition occurs when UDOT purchases a portion of the property, pays the owner for the portion of the property that is acquired, and the property can still be used as it is currently being used.

Easements for construction and utilities may also be required for properties along 5400 South and 4015 West within the study area. Easements are outside the boundaries of a planned roadway, but would be required to accommodate project activities (i.e. movement of construction equipment, relocation of utilities, staging, and/or storage). UDOT provides compensation to the landowner for the use.

The Build Alternative would result in the relocation of 38 residences and 8 businesses. UDOT has a right-of-way division that will work with affected property owners throughout the acquisition and relocation process. Residents and businesses would be relocated in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT. **Figure 3.3-1** shows the location of potential easements, acquisitions, and relocations, and **Table 3.3-1** lists acquisitions and relocations by address.

Figure 3.3-1 and Table 3.3-1 depict preliminary determinations of full and partial acquisitions. Impacts identified may be reduced during final design. Ultimately, whether a property will be a full or partial acquisition is determined case-by-case based on the appraised value of the property and estimation of damages to the property. UDOT is currently contacting impacted property owners to provide additional information on the acquisition process.

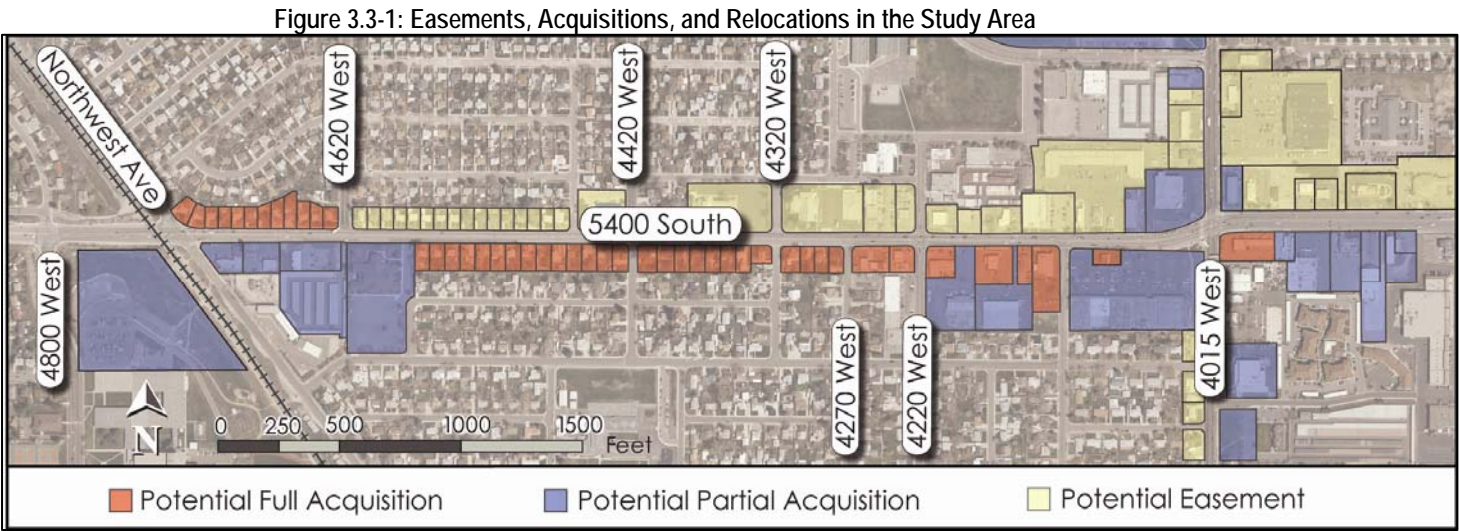


Table 3.3-1: Acquisitions and Relocations in the Study Area

Address	Property Type	Type of Acquisition	Relocation (Yes/No)	Address	Property Type	Type of Acquisition	Relocation (Yes/No)	Address	Property Type	Type of Acquisition	Relocation (Yes/No)
5382 S 4015 W	Commercial	Partial Acquisition	No	4561 W 5415 S	Residential	Full Acquisition	Yes	4299 W 5415 S	Residential	Full Acquisition	Yes
4040 W Sams Blvd	School	Partial Acquisition	No	4551 W 5415 S	Residential	Full Acquisition	Yes	4289 W 5415 S	Residential	Full Acquisition	Yes
4015 W 5316 S	Commercial	Partial Acquisition	No	4541 W 5415 S	Residential	Full Acquisition	Yes	4279 W 5415 S	Residential	Full Acquisition	Yes
4015 W 5560 S	Commercial	Partial Acquisition	No	4531 W 5415 S	Residential	Full Acquisition	Yes	4261 W 5415 S	Commercial	Full Acquisition	Yes
4060 W 5415 S	Commercial	Partial Acquisition	No	4521 W 5415 S	Residential	Full Acquisition	Yes	4235 W 5415 S	Commercial	Full Acquisition	Yes
4620 W 5404 S	Residential	Full Acquisition	Yes	4511 W 5415 S	Residential	Full Acquisition	Yes	4219 W 5415 S	Commercial	Full Acquisition	Yes
4648 W 5415 S	Residential	Full Acquisition	Yes	4501 W 5415 S	Residential	Full Acquisition	Yes	4195 Kearns Blvd	Commercial	Partial Acquisition	No
4656 W 5415 S	Residential	Full Acquisition	Yes	4491 W 5415 S	Residential	Full Acquisition	Yes	4163 W 5415 S	Commercial	Full Acquisition	Yes
4666 W 5415 S	Residential	Full Acquisition	Yes	4481 W 5415 S	Residential	Full Acquisition	Yes	4147 W 5415 S	Commercial	Partial Acquisition	No
4674 W 5415 S	Residential	Full Acquisition	Yes	4471 W 5415 S	Residential	Full Acquisition	Yes	4153 W 5415 S	Commercial	Full Acquisition	Yes
4682 W 5415 S	Residential	Full Acquisition	Yes	4461 W 5415 S	Residential	Full Acquisition	Yes	4135 W 5415 S	Commercial	Full Acquisition	Yes
4690 W 5415 S	Residential	Full Acquisition	Yes	4451 W 5415 S	Residential	Full Acquisition	Yes	4140-4095 W 5415 S	Commercial	Partial Acquisition	Yes*
4698 W 5415 S	Residential	Full Acquisition	Yes	4441 W 5415 S	Residential	Full Acquisition	Yes	4015 W 5557 S	Commercial	Partial Acquisition	No
4706 W 5415 S	Residential	Full Acquisition	Yes	4420 W 5431 S	Residential	Full Acquisition	Yes	4015 W 5495 S	Post Office	Partial Acquisition	No
4714 W 5415 S	Residential	Full Acquisition	Yes	4420 W 5430 S	Residential	Full Acquisition	Yes	4007 W 5400 S	Commercial	Partial Acquisition	No
4724 W 5415 S	Residential	Full Acquisition	Yes	4391 W 5415 S	Residential	Full Acquisition	Yes	3965 W 5400 S	Commercial	Full Acquisition	Yes
5405 S Northwest Ave	Residential	Full Acquisitions	Yes	4381 W 5415 S	Residential	Full Acquisition	Yes	3951 W 5400 S	Commercial	Partial Acquisition	No
5525 S Cougar Ln	School	Partial Acquisition	No	4371 W 5415 S	Residential	Full Acquisition	Yes	3900 W 5400 S	Commercial	Partial Acquisition	No
4703 W 5415 S	Commercial	Partial Acquisition	No	4361 W 5415 S	Residential	Full Acquisition	Yes	3905 W 5400 S	Commercial	Partial Acquisition	No
4675 W 5415 S	Commercial	Partial Acquisition	No	4351 W 5415 S	Residential	Full Acquisition	Yes	3903 W 5400 S	Commercial	Partial Acquisition	No
4655 W 5415 S	Commercial	Partial Acquisition	No	4341 W 5415 S	Residential	Full Acquisition	Yes	3891 W 5400 S	Commercial	Partial Acquisition	No
4595 W 5415 S	Commercial	Partial Acquisition	No	4320 W 5426 S	Residential	Full Acquisition	Yes	3901 W 5400 S	Commercial	Partial Acquisition	No
4575 W 5415 S	Church	Partial Acquisition	No	4309 W 5415 S	Residential	Full Acquisition	Yes				

* Several buildings are located on this property. The one building (shaded in red) within the property boundaries would be acquired under the Build Alternative.
 Notes: Table shading corresponds with parcel shading shown in **Figure 3.3-1**. Addresses are listed from 4015 West along the north side of 5400 South westward to Northwest Avenue, then the addresses continue eastward on the south side of 5400 South to 4015 West.

For businesses not relocated by the proposed widening project, UDOT has developed tools and resources to help business owners maintain their businesses throughout construction. The Partners for the Road Ahead guide is available on UDOT's website (www.udot.utah.gov), located under the *Doing Business* link and then the *Business Guide* link.

3.3.5 Avoidance, Minimization, and Mitigation Measures

None Required

3.4 ECONOMICS

This section discusses the current and projected economic conditions and the potential impacts to the tax base as a result of the Build Alternative.

3.4.1 Regulations

There are no applicable economic regulations.

3.4.2 Study Area

The study area for assessing economic impacts focuses on Kearns Township because the potential for economic impacts on the City of Taylorsville would be negligible.

The Build Alternative would impact approximately 3.5 acres of commercial property and relocate 7 businesses in Kearns Township and 1 business in Taylorsville. Because these changes would not substantially affect the City of Taylorsville or Kearns Township tax base or affect the feasibility of Kearns Township incorporation in the future, no impacts are expected under the Build Alternative.

3.4.3 Affected Environment

In the year 1996, the State of Utah's Legislature created "townships" to protect areas not wanting to annex into an existing city or incorporate into a new municipality. In the year 2008, a survey was conducted to determine if residents within Salt Lake County's townships desired to incorporate or remain as townships. The survey results indicated that the majority of people living in townships wanted to retain Salt Lake County as their municipal-service provider (Nakamura 2009). The results showed that 73 percent of respondents prefer their status as residents of Salt Lake County's unincorporated area, either inside or outside township boundaries (Nakamura 2009).

Salt Lake County completed a feasibility study to determine the viability of each of the townships becoming cities (WEPC 2007). The study concluded the following regarding Kearns Township.

- **Tax Base:** The Kearns Township area has a relatively small tax base with approximately 9,800 households and 139 acres of commercial area.
- **Tax Revenue:** Commercial businesses in Kearns Township generate approximately \$3.6 million in sales tax revenue annually. Future land use plans identify approximately 50 acres of additional land for future commercial development.
- **Households:** The number of households in Kearns Township is not expected to increase.
- **Salt Lake County Spending:** Salt Lake County's spending is lower than incorporated jurisdictions' spending on parks; highway maintenance; capital investment for roads; upkeep for curbs, gutters, and sidewalks; and other related infrastructure expenditures.

- **Incorporation:** Incorporation of Kearns Township into a city would not be feasible. In order for Kearns Township to incorporate and become a city, their property tax rates would exceed the state statutory maximum.
- **Annexation:** It would not be feasible for Kearns Township to be annexed into the cities of West Valley or West Jordan, but may be feasible to be annexed into the City of Taylorsville. If Kearns Township was annexed into the cities of West Valley or West Jordan, each city's assessed value per household and sales tax per household would decrease. If Kearns Township was annexed into the City of Taylorsville, the City's assessed value per household would decrease, but the sales tax per household would slightly increase. (WEPC 2007)

3.4.4 Environmental Consequences

3.4.4.1 No Build Alternative

No impacts are anticipated for economics under the No Build Alternative as there would be no physical improvements to 5400 South that would affect commerce or the tax base within the study area.

3.4.4.2 Build Alternative

The proposed widening project would not substantially affect commerce or the tax base in the City of Taylorsville since the Build Alternative would only require the full acquisition of one business within the City of Taylorsville's municipal boundaries.

Implementation of the Build Alternative would result in the acquisition of approximately 3.5 acres of commercial properties and the relocation of 7 businesses within Kearns Township. These properties would no longer be taxable, and the businesses would not generate sales tax. However, the impacted commercial area (approximately 3.5 acres) is a small component of Kearns Township's 139 acre commercial tax base, and this would not affect the overall Kearns Township tax base.

Related to redevelopment in and around the study area, the Kearns Township General Plan identifies a desire to redevelop the commercial area around the 4015 West and 5400 South intersection (Kearns 2009). The proposed widening project may facilitate development plans by providing parcels in the commercial area that could be consolidated with other parcels for new development. Additionally, reduced congestion and traffic delays resulting from implementation of the Build Alternative may have beneficial effects on business accessibility in the study area.

Regarding residence relocations, approximately 38 homes would be acquired in full. Since homes do not contribute more to the tax base than they receive in services, there would not be any negative impact to the overall tax base from residential relocations.

The Build Alternative analysis also considered the 2007 Salt Lake County study for the feasibility of incorporation of Kearns Township and the effect of the proposed widening project on incorporation. The 2007 feasibility study indicates that it is not currently feasible for the township to incorporate nor is it projected to be feasible in the future (WEPC 2007). Additionally, Salt Lake County residents have indicated a desire not to incorporate in the future (Nakamura 2009). The Build Alternative is not

anticipated to have a positive or negative effect on the ability to incorporate. Furthermore, the proposed widening project would not substantially impact the existing tax base or change future projections.

3.4.5 Avoidance, Minimization, and Mitigation Measures

No mitigation is required for economics.

3.5 BICYCLIST AND PEDESTRIAN CONSIDERATIONS

Bicycle and pedestrian use of roadways is common within the Salt Lake Valley, and accommodations for bicyclists and pedestrians are important elements in the urbanized transportation network. This section evaluates impacts to bicyclists and pedestrians as a result of the proposed widening project.

The proposed 5400 South widening project is located in an urbanized corridor that has substandard bicycle and pedestrian facilities. The Build Alternative would improve conditions by constructing wider sidewalks that would meet standards. The wider sidewalks would also provide better accommodations for students who walk along 5400 South. The Build Alternative also includes provisions for a shared roadway bicycle facility, an improvement over existing conditions.

3.5.1 Regulations

Federal and state regulations govern bicycle and pedestrian facilities. Utah State Code defines bicycles as vehicles, and UDOT provides the following guidance for accommodating pedestrians and bicycles into roadway designs: the Guide for the Development of Bicycle Facilities (AASHTO 1999), the Pedestrian & Bicycle Guide (UDOT 2008), and Guidelines for Bicycle and Pedestrian Accommodations (UDOT 2007).

On the federal level, Title II of the Americans with Disabilities Act (ADA) requires UDOT to apply specific access design standards (e.g., sidewalk width, pedestrian ramp design) developed by the U.S. Access Board when constructing or altering pedestrian facilities.

3.5.2 Study Area

The study area for assessing bicycle and pedestrian impacts is the 5400 South corridor from Bangerter Highway to 4800 West, which includes a quarter mile area on both sides of the corridor limits.

3.5.3 Affected Environment

Local planning documents, including the City of Taylorsville General Plan, the Kearns Township General Plan, and the WFR 2030 Regional Bicycle Plan within the 2030 RTP identify goals, policies, and routes for bicycle and pedestrian facilities in the study area.

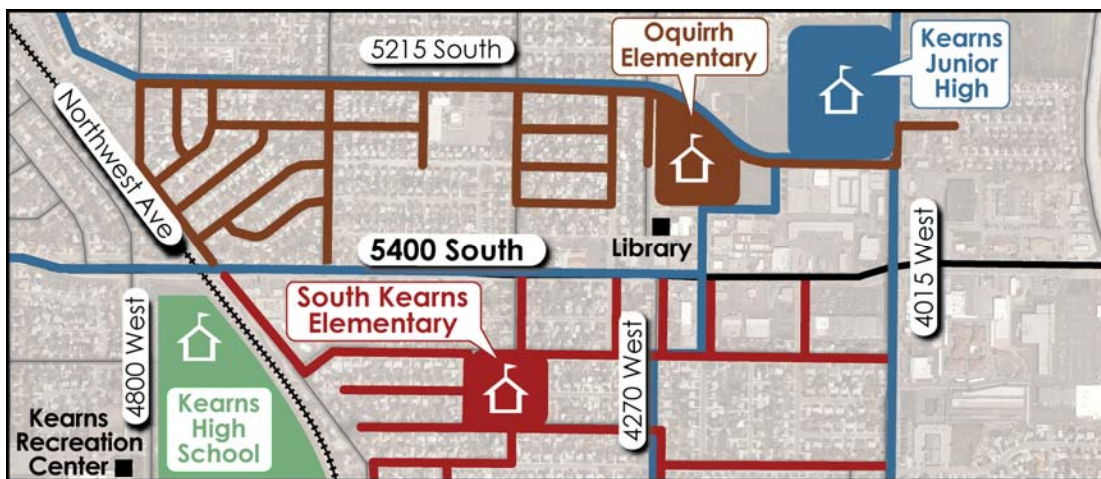
- The City of Taylorsville General Plan notes, “Transportation projects should include improvements such as street trees, public transit enhancements, enhanced pedestrian facilities, and other streetscape improvements that are necessary to improve community character” (Taylorsville 2006).
- The Kearns Township General Plan recommends completing a bicycle network plan to provide accommodations for bicyclists on streets in Kearns Township and includes implementing the proposed bicycle improvements provided in the WFR 2030 Regional Bicycle Plan (Kearns 2009).

- WFRC 2030 Regional Bicycle Plan recognizes 5400 South as a proposed shared roadway bicycle facility (WFRC 2007). Shared roadway bicycle facilities are defined as unstriped, shared shoulders for bicycles.
- Salt Lake County also identifies 5400 South as a proposed shared roadway bicycle route on the 2011 Salt Lake County Bike Route Map (Salt Lake County 2011).

The existing condition of 5400 South does not provide adequate bicycle and pedestrian transportation facilities; there are no shoulders, and 3-foot wide sidewalks that abut the curb and gutter are used by both pedestrians and bicyclists. Since there is virtually no space for snow storage, snow is often pushed out of the roadway and onto the sidewalks, frequently making the sidewalks inaccessible during the winter months. During the public scoping period, members of the public indicated that these conditions create problems for students trying to get to/from school as well as for other pedestrians.

There are a number of community facilities, including schools, a library, and a recreation center that generate pedestrian traffic along the corridor (**Figure 3.5-1**). Utah law requires every elementary, middle, and junior high school to develop and implement a Student Neighborhood Access Program Plan (SNAP). This plan details the safest walking and bicycling routes within a one mile radius of the school and is distributed to local parents. **Figure 3.5-1** illustrates the SNAP routes for three schools in the study area, showing that while elementary students may not cross 5400 South, there are routes that cross and use 5400 South to get students to Kearns Junior High School.

Figure 3.5-1: SNAP Routes and Pedestrian Generators in the Study Area



Sources: SNAP 2011 and UDOT 2011

Multi-modal and transit facilities serve as both origins and destinations of pedestrian and bicycle trips. Transit in the study area consists of three bus routes. The 348 Fast Bus/Express Service Bus runs north-south and connects to downtown Salt Lake City. Routes 240 and 54 are community/city routes. The north-south Route 240 connects downtown Salt Lake City to Jordan Landing in West Jordan. Route 54 runs east-west along 5400 South and connects to the 5300 South TRAX Station. Route 54 is the only bus route that actually runs along 5400 South through the corridor. (UTA 2010)

3.5.4 Environmental Consequences

3.5.4.1 No Build Alternative

No impacts are anticipated on pedestrian and bicyclist facilities under the No Build Alternative. WFRC, the City of Taylorsville, and Kearns Township would continue to support planned pedestrian and bicycle facility improvements in accordance with their individual plans.

3.5.4.2 Build Alternative

Implementation of the Build Alternative would include construction of sidewalks that vary in width between 4 and 10 feet in adherence with ADA standards. These wider sidewalks would provide improved facilities for the disabled, transit users, pedestrians, and students who use 5400 South as a way to get to school. The larger sidewalks may also allow additional space for pedestrians to walk during winter months, when snow storage can become a problem.

Pedestrian crosswalks near Kearns Junior High School will be re-established, and a designated route would be identified to help students cross safely. The northern leg of the ThrU-Turn intersection on 4015 West would be located in front of Kearns Junior High School. Although the ThrU-Turn intersection would result in increased traffic volumes near the school, it is anticipated that the intersection would actually increase pedestrian safety at this location because crosswalks across 4015 West and Sam's Boulevard would be signalized. Students would have safe and reliable crosswalks with less potential for uncontrolled vehicle conflicts. In combination with crosswalk re-establishment, designated walking routes would be established in coordination with Kearns Junior High School. Additionally, a third leg of the ThrU-Turn intersection has been added on 5400 South to reduce traffic volumes using the northern leg of the ThrU-Turn near the school (see **Figure 2-3**). Overall, it is expected that ThrU-Turn will be a safer intersection for pedestrians.

The Build Alternative would include a 3-foot wide shoulder that would accommodate a shared roadway bicycle facility, which is an improvement over the existing conditions. In UDOT's Guidelines for Bicycle and Pedestrian Accommodations, there are several questions to assist the study team in determining the type of bicycle facility that should be included as part of the Build Alternative (UDOT 2007). The study team considered the following issues, referenced in part from the guidelines, in determining the appropriate treatment of bicycle facilities on 5400 South:

- **Continuity:** The Build Alternative is only one mile in length and will not provide continuity or linkages with existing or proposed bicycle or pedestrian facilities.
- **Multi-modal connectivity:** The Build Alternative does not provide connectivity to a major multi-modal facility (e.g., rail transit, bus depot, airport).
- **Project impacts:** The Build Alternative includes a cross section that is narrower than the UDOT standard seven-lane cross section.
- **Project cost:** Limited funding is available to complete proposed roadway improvements. If additional funding were available, use of the funds would be prioritized as follows: full reconstruction of the road, additional median width, additional travel lane width, and then additional shoulder width to accommodate bicyclists.

3.5.5 Avoidance, Minimization, and Mitigation Measures

No mitigation is required for pedestrian and bicyclist considerations.

3.6 WATER RESOURCES

This section evaluates potential impacts to water resources in the study area and considers drainage needs for the 5400 South corridor.

The existing storm drain system does not provide enough capacity resulting in localized flooding. The project includes a new storm drain system and detention basin to accommodate the 6.5 cubic feet per second increase in storm water and to accommodate existing storm water needs.

3.6.1 Regulations

There are several federal and state regulations protecting water resources that apply to the proposed widening project. Federal regulations include the Clean Water Act (CWA) 401 (Certifications) and CWA 402 (National Pollutant Discharge Eliminations System [NPDES]).

On the state level, the NPDES permit program is administered by the Utah Department of Environmental Quality (UDEQ). The Utah Pollutant Discharge Elimination System (UPDES) permit fulfills the CWA Section 402 requirements. Further State of Utah regulations include Utah Rule 317, which notes that there shall be no discharge of wastewater, wastes, or other substances without a permit from the Water Quality Board and a General Construction Storm Water Permit (Permit UTR 30000). The UDEQ requires a project applicant to obtain a UPDES storm water permit if project construction disturbs more than one acre of land.

3.6.2 Study Area

The study area for assessing water resource impacts is the 5400 South corridor from Bangerter Highway to 4800 West and 4015 West from 5115 South to 5580 South, including surface and ground waters located within this area. Drainage facilities for 5400 South are located within this study area. The study area is contained within the Jordan River Watershed. Eventually, all water flow and runoff in the watershed empties into the Jordan River.

3.6.3 Affected Environment

No natural rivers, streams, creeks, or waterways cross the study area. Therefore, these resources are not discussed further.

Storm water generally drains from the south to the north in the study area and once it reaches 5400 South, storm water generally drains from west to east until it reaches 4015 West. The adjacent commercial businesses and residential subdivisions to the south and west of 5400 South contribute storm water to the study area. Storm water from adjacent properties to the north of 5400 South also sheet flows from the properties to the roadway since there are no facilities to detain/retain the water. Flooding occurs at several locations in the study area during severe storms. These locations include the intersections of Bangerter Highway and 5400 South, 4015 West and 5400 South, and Northwest Avenue and 5400 South.

The existing storm drain infrastructure in the study area includes a Salt Lake County-owned storm drain line that runs along 5400 South from Northwest Avenue to 4420 West and another storm drain line at the

intersection of 4015 West and 5400 South that runs to the north along 4015 West. No Storm drain infrastructure exists along 5400 South between 4015 West and 4420 West. (UDOT Drainage 2011)

3.6.4 Environmental Consequences

3.6.4.1 No Build Alternative

No impacts are anticipated for water resources under the No Build Alternative as the existing footprint would not change. However, localized street flooding may persist under the No Build Alternative. Roadway runoff would continue to empty into the existing storm drain system.

3.6.4.2 Build Alternative

The Build Alternative would add approximately 4.2 acres of impervious surface. The additional impervious surface would increase stormwater runoff by approximately 6.5 cubic feet per second. The increased stormwater runoff from the study area could potentially result in erosion and sedimentation impacts on nearby bodies of water or developed areas. However, UDOT would follow best management practices (BMPs) outlined in their standard specification for erosion control, which would minimize this impact.

To accommodate the additional runoff, storm drain lines would be installed between 4015 West and 4420 West, where none currently exist. The existing storm drain line from Northwest Avenue to 4420 West would be replaced with a larger diameter pipe. One potential site for a detention basin has been identified in the study area near the intersection of Northwest Avenue and 5400 South. The detention basin will have regulated flow both in and out of the basin. The proposed drainage improvements would capture, store, and provide treatment of runoff prior to release into Salt Lake County's storm drain system. Treatment of runoff may include oil-water and debris separators, if needed. These facilities would improve drainage conditions in the study area and reduce flooding at the 4015 West and 5400 South intersection.

The proposed project involves disturbing greater than one acre of ground surface (4.2 acres). Therefore, a UPDES Permit from the State Division of Water Quality is required. The UPDES Permit is obtained by submitting a Notice of Intent (NOI) to the State Division of Water Quality prior to construction. Before obtaining this permit, a Storm Water Pollution Prevention Plan (SWPPP) must be prepared for the project.

3.6.5 Avoidance, Minimization, and Mitigation Measures

None Required

3.7 NATURAL RESOURCES

This section evaluates impacts to natural resources by the proposed widening project in the study area. Natural resources evaluated in this section include wildlife, migratory birds, sensitive species, Waters of the U.S., and wetlands.

The proposed widening project is located in an urbanized corridor with little or no potential to affect natural resources. However, care will be taken during construction to avoid the distribution of noxious weeds.

3.7.1 Regulations

There are a number of federal and state laws and regulations that apply to the protection of natural resources (e.g., Endangered Species Act, Clean Water Act). However, no natural resources have been identified that could be affected by the proposed widening project and these laws and regulations would not apply.

3.7.2 Study Area

The study area for assessing natural resource impacts is the 5400 South corridor from Bangerter Highway to 4800 West, which includes a half-mile area on both sides of the corridor limits.

3.7.3 Affected Environment

The study area is a highly disturbed and urbanized area, consisting primarily of commercial and residential properties. A letter from the UDOT wildlife biologist, Mr. Paul West, dated February 8, 2011, indicated that “no federally listed threatened, endangered, or candidate species or any critical habitat would be affected,” and no further Section 7 consultation should be required. In addition, “this project would have no effect to any state-sensitive species, important wildlife habitat, big game migration routes, habitat connectivity, migratory birds, or to fish passage” (Appendix A). A site visit was conducted to confirm these findings.

A site visit also concluded that there were no Waters of the U.S., or wetlands present in the study area that could be potentially affected by the proposed widening project. The site visit was documented in a memorandum approved by UDOT’s landscape architect (Appendix A).

3.7.4 Environmental Consequences

3.7.4.1 No Build Alternative

No impacts are anticipated for natural resources (i.e., sensitive species habitat, wetlands, or wildlife) under the No Build Alternative.

3.7.4.2 Build Alternative

There are no natural resources (i.e., Waters of the U.S., wetlands, or sensitive species and/or habitat) within the proposed widening project’s area of influence. Therefore, there would be no impacts to natural resources as a result of the Build Alternative.

Construction activities associated with the Build Alternative could introduce invasive species including spreading noxious weeds into currently non-infested areas or into properties vacated for the purpose of the proposed widening project. However, UDOT would follow BMPs outlined in their special provision for invasive species, which would minimize this impact and reduce the potential spread of noxious weeds.

3.7.5 Avoidance, Minimization, and Mitigation Measures

No mitigation is required for natural resources.

3.8 AIR QUALITY

This section defines Salt Lake County air quality designations and includes regional and project level air quality analysis. Analysis of ozone and particulate matter impacts is provided.

The proposed widening project is located in an urbanized area where exceedances of air quality standards have occurred. Air quality impacts resulting from the Build Alternative have been evaluated, and the project would conform to all regional and state requirements. As such, there are no anticipated impacts associated with air quality.

3.8.1 Regulations

Air quality is assessed at the federal, regional, and project level. The study area is under the jurisdiction of the United States Environmental Protection Agency (EPA) and the Utah Division of Air Quality (UDAQ), a division of the UDEQ.

Under the Clean Air Act (CAA), as amended in the year 1990, the EPA established the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. These six criteria pollutants are: particulate matter, sulfur dioxide (SO₂), carbon monoxide (CO), lead (Pb), Nitrogen Dioxide (NO₂), and ozone (O₃) (EPA 2011a). Particulate matter includes two categories of particle pollution, fine particulate matter or particulates with a diameter of 2.5 micrometers or less (PM_{2.5}) and inhalable coarse particle matter or particulate matter with a diameter of 10 micrometers or less (PM₁₀). The State of Utah has accepted the NAAQS as the state standards.

The CAA requires that all regionally-significant and federally-funded transportation projects meet the transportation conformity regulations. The proposed widening project is considered a regionally-significant project, and CAA conformity is required. Projects in non-attainment or maintenance areas (defined below) must conform to a state implementation plan (SIP) and ensure that transportation activities will not cause or contribute to new violations, worsen existing violations, or delay attainment of air quality standards (EPA 2011b).

Roadway construction can also affect the air quality in a study area and is, therefore, subject to Utah Administrative Code Rules 307-210, 307-401, and 307-415, which are enforced by UDEQ. All construction sites larger than a quarter of an acre in size that emit fugitive dust are required to minimize and control dust on site. Since the proposed widening project is located along the Wasatch Front, a fugitive dust control plan would need to be submitted to UDEQ prior to any construction activities. UDOT would follow the guidance provided in their standard specification on dust control and watering.

3.8.2 Study Area

The study area for assessing regional, air quality impacts is Salt Lake County, and the study area for assessing project-level, air quality impacts is the 5400 South corridor from Bangerter Highway to 4800 West.

3.8.3 Affected Environment

Municipalities (cities or counties) can be classified as being in attainment, non-attainment, or maintenance areas for each of the six criteria pollutants defined above. An area is classified as non-attainment when one or more of the criteria pollutants exceed the NAAQS. Conversely, an area is classified as an attainment area when there are no criteria pollutants that exceed the NAAQS. Areas previously designated as non-attainment status but have consistently demonstrated meeting the NAAQS are reclassified as maintenance areas. In accordance with the CAA, designated maintenance areas are required to develop maintenance plans.

Attainment is classified by pollutant. Municipalities can be in attainment for one pollutant and be in non-attainment for another. Salt Lake County is designated under the referenced classifications as follows:

- **Maintenance Area:** Ozone.
- **Non-Attainment Area:** PM₁₀, PM_{2.5}, and SO₂
- **Attainment Area:** CO, NO₂, and Pb.

Ozone is a regional pollutant and, therefore, cannot be assessed at the project level. However, a regional analysis was conducted to demonstrate if the proposed widening project meets regional air quality conformity requirements.

The EPA's Motor Vehicle Emission Simulator (MOVES) model is able to predict quantitative project-level PM_{2.5} and PM₁₀ concentrations. However, it was approved for use on February 8, 2011, with a grace period for studies like this one that began prior to that approval. Official use of the MOVES model will be required in 2012. Instead, qualitative PM_{2.5} and PM₁₀ hot-spot analyses were conducted. The next section includes a review of regional PM_{2.5} and PM₁₀ modeling.

Although Salt Lake County is designated as a non-attainment area for SO₂, there is no guidance for assessing SO₂. Therefore, an analysis of SO₂ was not conducted for this proposed widening project.

Projects located in CO non-attainment/maintenance areas are typically required to conduct a project-level, CO hot-spot analysis. However, since the proposed widening project is located outside of the CO maintenance area, a CO hot-spot analysis was not conducted.

Lastly, because Salt Lake County is in an attainment area for NO₂ and Pb, no further study is required.

3.8.4 Environmental Consequences

3.8.4.1 No Build Alternative

No additional impacts are anticipated for air quality under the No Build Alternative because the proposed widening project would not be built. However, other regionally-significant transportation projects identified in the 2030 RTP would be constructed.

The most recent transportation conformity analyses conducted for the Salt Lake County non-attainment and maintenance areas indicate that in the year 2030, all regionally-significant transportation projects would be within the CO and PM₁₀ emission budgets established in the SIP (WFRC 2007). However, the State Division of Air Quality is developing a new SIP, which will be available by December 12, 2012.

3.8.4.2 Build Alternative

Ozone Analysis

According to EPA, there have been exceedances of ozone concentrations within Salt Lake County. Ozone formation is driven by two major classes of directly emitted precursors: Nitrogen oxide (NO_x) and volatile organic compounds (VOCs). NO_x emissions are mainly from automobiles, power plants, and other combustion processes. VOCs are emitted from automobiles, gasoline stations, paint fumes, degreasers, cleaning fluids, and other sources. The SIP, which outlines Ozone Maintenance Provisions for Salt Lake County, states that the projected VOC and NO_x emissions from proposed projects listed in the 2030 RTP, including this proposed widening project, are anticipated to remain below the year 2002 attainment emission inventory level through the year 2014 (WFRC 2007). The projected VOC and NO_x emissions are anticipated to remain below the year 2002 attainment level due to implementation of control measures such as vehicle inspection and maintenance programs as well as rules for reasonable and achievable control technologies for industrial sources. Therefore, since emissions from the Build Alternative are included in the conforming SIP, this proposed widening project meets regional conformity requirements.

PM₁₀ Analysis

Particulate matter is a mixture of suspended microscopic solids and liquid droplets made up of various components, including acids, organic chemicals, metals, dust particles, and pollen or mold spores. The size of a particle is directly linked to its potential for causing health problems. Small particles, that is, those less than 10 micrometers in diameter (PM₁₀), pose the greatest problems because of their ability to penetrate deeply into the lungs and bloodstream. Exposure to such particles can affect both the lungs and heart. Particles larger than 10 micrometers act as an irritant to the eyes and throat.

PM₁₀ concentrations in the environment come from direct sources such as dust stirred up by vehicle tires as well as secondary reactions of NO_x and SO_x that form PM₁₀ in the atmosphere.

According to the EPA, there have been exceedances of the PM₁₀ NAAQS at monitoring stations within Salt Lake County. Therefore, a PM hot-spot analysis is required. The requirement for a quantitative PM₁₀ hot-spot analysis does not take effect until the year 2012 so a qualitative analysis is presented. PM₁₀ concentrations are related to a combination of direct PM₁₀ sources, such as fugitive dust that is a result of increased vehicle miles of travel, and secondary reactions of NO_x and SO_x that form PM₁₀ in the

atmosphere. It is believed that traffic volumes and corresponding level of service have less impact on PM_{10} concentrations than the larger regional trends related to emission rates and industrial controls. Therefore, it can be expected that PM_{10} in Salt Lake County will remain a regional issue related to prolonged temperature inversions and a gradual build-up of PM_{10} related pollutants throughout Salt Lake Valley and will not be influenced by localized PM_{10} concentrations on individual roadways.

According to the 2030 RTP, a conformity analysis was completed for Salt Lake County (WFRC 2007). Projected emissions were calculated from proposed projects listed in the RTP, including this proposed widening project. Emissions of direct particulates are estimated to be 11.43 tons per day by the year 2030, which are below the year 2030 emissions budget of 32.30 tons per day for Salt Lake County. Therefore, since emissions from the proposed projects listed in the 2030 RTP, including this proposed widening project, meet the year 2030 emission budgets, this proposed widening project meets conformity requirements.

It should also be noted that high values of PM_{10} tend to occur during the wintertime inversions when cold air is trapped near ground level for several days and is prevented from dispersing. Summertime high winds can also lead to unusually high PM_{10} values. Therefore, trends are difficult to evaluate since weather has a significant role in the data collected at monitoring stations. Additionally, regional trends have shown a general decrease in PM_{10} . The SIP indicates that the effect of emission reductions appears to be reflected in ambient measurements at monitoring sites and is evidence that the State's implementation of the PM_{10} SIP control measures has resulted in emission reduction (Air Quality Board 2005).

PM_{2.5} Analysis

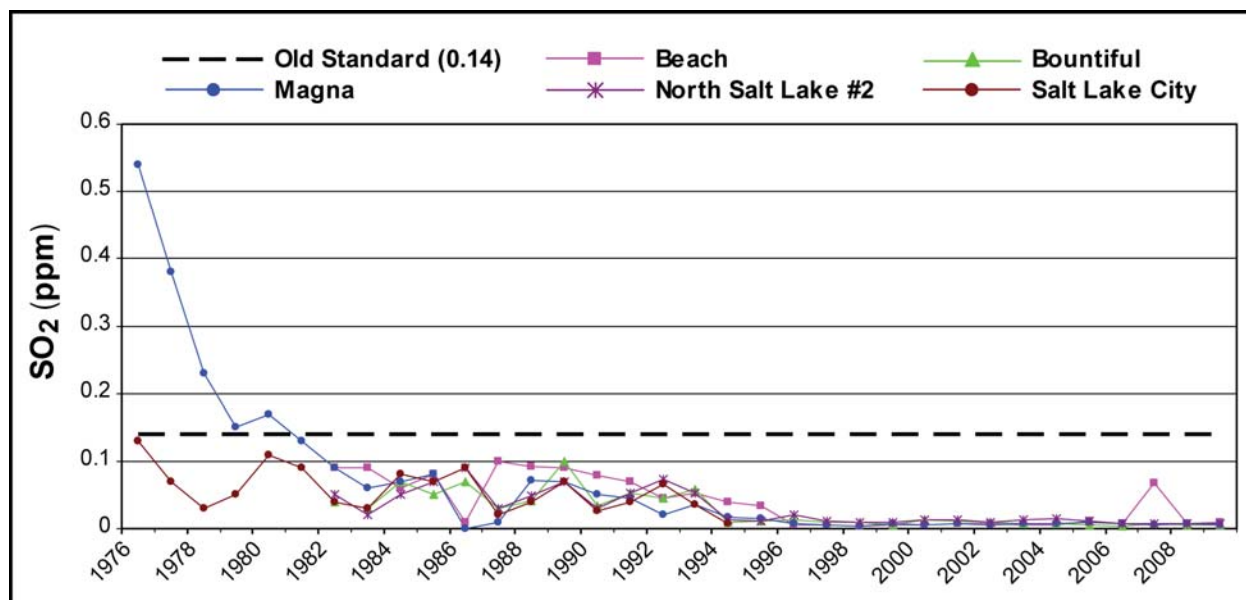
Fine particulate matter with a diameter less than 2.5 micrometers is called $PM_{2.5}$. Sources of fine particles include all types of combustion, including motor vehicles, particularly diesel exhaust, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes. Because these smaller particles penetrate deeper into the cardiovascular system, they have a strong association with circulatory (heart disease and strokes) disease and mortality.

The majority of the State of Utah's $PM_{2.5}$ emissions are from secondary sources that include area, point, and mobile sources. According to the EPA, there have been exceedances of the $PM_{2.5}$ NAAQS at monitoring stations within Salt Lake County. Attainment status is based on monitoring concentrations that are averaged over a consecutive three-year period (2006 to 2008), with Salt Lake County being designated as a non-attainment area on November 13, 2009. The closest monitoring station to the study area is located at 3275 West and 3100 South with a recorded $PM_{2.5}$ concentration of 10.81 $\mu\text{g}/\text{m}^3$ and 11.09 $\mu\text{g}/\text{m}^3$ annually.

It should be noted that $PM_{2.5}$ is a regional pollutant, and sources of $PM_{2.5}$ and its precursors are numerous and generally located over a broad area, making it difficult to determine the exact sources of $PM_{2.5}$ concentrations. To address this issue, regional and localized emissions will be assessed for the Salt Lake County $PM_{2.5}$ SIP, which is currently being completed. Precursors of particulate matter include SO_2 and NO_x . According to the PM_{10} SIP, NO_x emissions have been declining and will continue to decline as a result of NO_x control measures. The largest source of SO_2 emissions in Salt Lake County includes the

Kennecott tailings pond, located approximately ten miles northwest of the study area. However, due to recent control strategies implemented at the Kennecott site and at other stationary source sites, SO₂ emissions have and will continue to decline within Salt Lake County (**Figure 3.8-1**). Therefore, since precursors of PM_{2.5} are declining, it is anticipated that there would be a similar reduction in PM_{2.5} emissions.

Figure 3.8-1: Sulfur Dioxide 2nd Highest 24-hour Values



Source: UDAQ 2011

Like PM₁₀, high values of PM_{2.5} tend also to occur during the wintertime inversions, which make it difficult to evaluate the trend of PM_{2.5} emissions since weather has a significant role in the data collected at monitoring stations. However, regional trends have shown a slight reduction of PM_{2.5}. This reduction will be further reduced due to the EPA's control measures. At the national level, EPA has established several control programs that will reduce emissions from most major sources of PM_{2.5} and its precursor pollutants. The EPA's Tier 2 light-duty vehicle regulations and 2007 heavy-duty vehicle standards, along with control of the sulfur content of fuels, are expected to reduce motor vehicle emission rates by 59 percent between the year 2005 and 2015, with an additional 25 percent reduction between the years 2015 and 2030. The EPA's non-road engine regulations took effect in the year 2008 and are designed to reduce particulate matter and NO_x emissions from these vehicles by 90 percent by the year 2030 (EPA 2004). EPA's MOBILE 6.2 emissions model predicts that, relative to the year 2005, diesel particulate emissions rates will decline by 80 percent by the year 2015 and 95 percent by the year 2030. That is, 100,000 vehicles in the year 2005 would have the same diesel particulate emissions as 500,000 vehicles in the year 2015 or 2,000,000 vehicles in the year 2030.

3.8.5 Avoidance, Minimization, and Mitigation Measures

No mitigation is required for air quality.

3.9 NOISE

For purposes of this study, noise is primarily caused by roadway traffic or construction. This section identifies noise-sensitive receivers and evaluates noise impacts from traffic as a result of the proposed widening project. A *Preliminary Noise Analysis* was prepared for this SES and is included in Appendix B.

Existing noise levels along 5400 South are between 53 dBA and 75 dBA, and the future noise levels are generally anticipated to increase between 1 and 6 dBA, depending on location. A total of 46 noise-sensitive receivers would be impacted by the proposed project. Noise barriers were considered in four areas for impacted noise-sensitive receivers but were determined to not be feasible.

3.9.1 Regulations

In determining noise impacts and potential mitigation measures, both federal and state regulations were followed. Federal regulations include the Federal Highway Administration (FHWA) *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (23 CFR Part 772) and *Highway Traffic Noise Analysis and Abatement, Policy and Guidance* (FHWA 1995). On the state level, noise regulations include UDOT's *Noise Abatement Policy* (UDOT 2010) and Utah Code 72-6-111 & 112.

Specific to noise evaluations, it is important to define commonly referenced abbreviations and terms used throughout the regulatory guidance and this section. The following terms are used to quantify impacts and define sound levels.

- **Decibel:** A decibel is a unit of measure for sound. Decibels are presented with the units dB(A) or dBA.
- **dBA:** dBA represents the noise levels in decibels measured with an A-weighted frequency. The A-weighting corresponds to the A-scale on a standard sound level instrument that closely approximates frequencies that the human ear can detect. The A-weighted sound level is the most widely used measurement of environmental noise.
- **Leq(h):** Leq(h) is defined as the equivalent sound level for a one-hour time period.
- **Noise-sensitive receivers:** These receivers are located where frequent outdoor human use would occur that may be affected by existing and/or future transportation conditions.

3.9.1.1 Noise Abatement Criteria

Within the *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, FHWA has established Noise Abatement Criteria (NAC) that define noise levels for typical land uses (i.e., land activity categories) (23 CFR 772). UDOT's NAC is consistent with FHWA's NAC (**Table 3.9-1**). UDOT considers noise abatement (i.e., mitigation measures) for a proposed project if the NAC for an activity is met or exceeded. UDOT also considers noise abatement when future, worst-case noise levels substantially exceed existing noise levels. UDOT defines a substantial increase as a 10-dBA or more increase above existing noise levels.

Table 3.9-1: UDOT Noise Abatement Criteria

Activity Category	L _{eq} (h)*, dBA	Description of Activity Category
A	56 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	66 (exterior)	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, hospitals, and cemeteries.
C	71 (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	—	Undeveloped lands.
E	51 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

* Hourly A-weighted sound level in decibels, reflecting a 1-dBA approach value below 23 CFR 772 values.

Source: UDOT 2010

3.9.1.2 Traffic Data

The UDOT noise policy states that Level of Service (LOS) C traffic volumes must be used to model future, worst-case noise levels unless there is compelling reason not to use this LOS. LOS C traffic conditions are characterized by high-traffic volumes and high speeds, which cause the greatest amount of traffic noise.

3.9.1.3 Traffic Noise Model

Federal and State of Utah regulations require the use of FHWA's Traffic Noise Model (TNM) to establish existing and future noise levels. FHWA's TNM Version 2.5 was used to estimate the traffic noise levels at identified noise-sensitive receivers for existing (year 2010) and build (year 2040) conditions.

3.9.2 Study Area

The study area for assessing noise impacts is the 5400 South corridor from Bangerter Highway to 4800 West and 4015 West from 5115 South to 5580 South, and this study area includes all noise-sensitive receivers that may be impacted as a result of the proposed widening project. Noise-sensitive receivers within the study area include residential properties and three churches.

3.9.3 Affected Environment

3.9.3.1 Existing Noise Levels

Existing noise levels were collected on January 26 and January 27, 2011, at four noise-sensitive receiver locations. The locations represent ambient conditions within the study area. Traffic counts and operating speed data were input into the TNM 2.5 for validation. The difference between the field measurements and the model-predicted noise levels was 3-dBA or less, which is considered validated. Three dBA is relevant because the human ear can begin to detect a change in noise level greater than 3-dBA. The noise levels at the measured noise-sensitive receiver locations are summarized in the **Table 3.9-2**.

Table 3.9-2: Field Recorded and Predicted Noise Measurements at Noise-sensitive Receivers

Receiver #	Location	Field Measured Leq (dBA)	TNM Predicted Leq (dBA)	Difference (+/-)
M1	Resident: 5400 South (between 4460 West and 4620 West)	76	74	-2
M2	Resident: 5400 South (east of 4320 West)	74	72	-2
M3	Resident: 5460 South (second row, west of 4420 West)	54	55	+1
M4	Resident: 5460 South (second row, west of 4320 West)	53	55	+2

Figure 3.9-1 shows the locations of the receivers (M1 through M4) where sound level measurements were taken and locations of receivers (R1 through R150) where sound levels were modeled using TNM. **Table 3.9-3** summarizes noise levels at modeled noise-sensitive receivers for the existing (year 2010) and build (year 2040) conditions. Because some receivers (R) are close in proximity and experience similar predicted future noise levels, certain receivers were combined, which is noted under the “Numbers of Receivers by Activity” column.

Figure 3.9-1: Noise-sensitive Receivers and Impacted Receivers

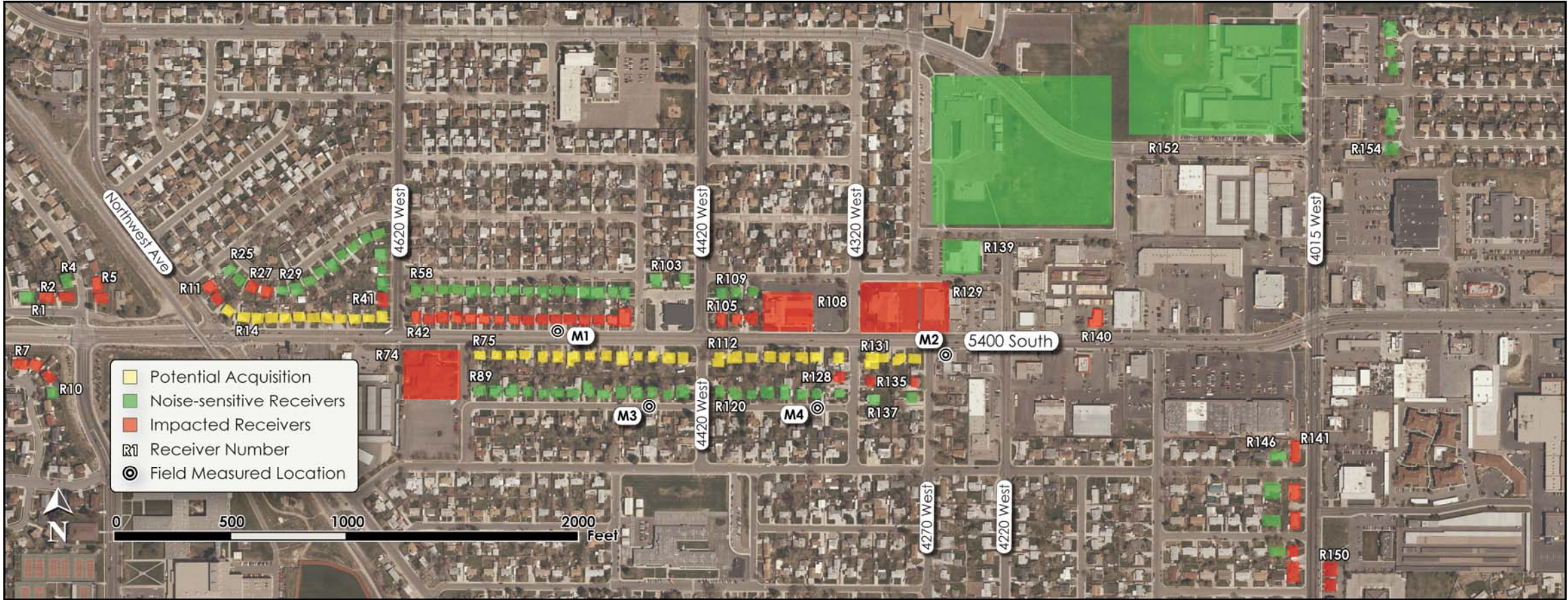


Table 3.9-3: Noise Levels at the Modeled Noise-sensitive Receivers

Receiver No.	Number of Receivers by Activity	UDOT NAC (dBA)	Existing 2011 (dBA)	Build Alternative 2040 (dBA)	Difference (+/-) (Existing vs. Build)	Build Noise Impact?
West of Northwest Avenue						
R1	1	66	64	65	+1	No
R2	2	66	65	67	+2	Yes
R4	1	66	63	65	+2	No
R5	2	66	65	67	+2	Yes
R7	3	66	65	66	+1	Yes
R10	1	66	64	65	+1	No
4620 West and Northwest Avenue						
R11	2	66	66	68	+2	Yes
R14	12	66	71	N/A	N/A	N/A
R25	2	66	60	63	+3	No
R27	2	66	61	66	+5	Yes
R29	12	66	60	65	+5	No
R41	1	66	62	66	+4	Yes

Receiver No.	Number of Receivers by Activity	UDOT NAC (dBA)	Existing 2011 (dBA)	Build Alternative 2040 (dBA)	Difference (+/-) (Existing vs. Build)	Build Noise Impact?
4420 West to 4620 West						
R42	16	66	69	71	+2	Yes
R58	16	66	60	63	+3	No
R74	1	66	66	69	+3	Yes
R75	14	66	69	N/A	N/A	N/A
R89	14	66	58	64	+6	No
R103	2	66	59	61	+2	No
4320 West to 4420 West						
R105	3	66	69	71	+2	Yes
R108	1	66	68	70	+2	Yes
R109	3	66	61	63	+2	No
R112	8	66	69	N/A	N/A	N/A
R120	8	66	61	65	+4	No
R128	1	66	62	68	+6	Yes

Receiver No.	Number of Receivers by Activity	UDOT NAC (dBA)	Existing 2011 (dBA)	Build Alternative 2040 (dBA)	Difference (+/-) (Existing vs. Build)	Build Noise Impact?
4015 West to 4320 West						
R129	2	66	67	70	+3	Yes
R131	4	66	70	N/A	N/A	N/A
R135	2	66	61	67	+6	Yes
R137	2	66	59	64	+5	No
R139	1	66	59	62	+3	No
R140	1	66	69	70	+1	Yes
R141	5	66	65	68	+3	Yes
R146	4	66	61	64	+3	No
R150	2	66	65	69	+4	Yes
R152	2	66	50	54	+4	No
R154	6	66	53	57	+4	No

N/A = Potential acquisition

3.9.4 Environmental Consequences

3.9.4.1 No Build Alternative

No impacts are anticipated related to noise under the No Build Alternative.

3.9.4.2 Build Alternative

The UDOT noise policy states that an impacted receiver is one that is or will be subjected to highway traffic noise that meets or exceeds the UDOT NAC or exceeds existing noise levels by 10-dBA or more. Under the Build Alternative, traffic volumes and noise along 5400 South are anticipated to increase (**Figure 3.9-1** and **Table 3.9-3**). Existing noise levels along 5400 South are already high, and the future noise levels are generally anticipated to increase between 1 and 6 dBA, depending on location. There are 46 noise-sensitive receivers that would experience noise levels that meet or exceed the UDOT NAC as a result of the proposed improvements (receivers marked in red on **Figure 3.9-1**). Therefore, noise abatement was considered for these impacted receivers (discussed below). Potentially, there are 38 noise-sensitive receivers that would be acquired as a result of the Build Alternative (receivers marked in yellow on **Figure 3.9-1**). Noise levels were not predicted for these noise-sensitive receivers.

Temporary increases in noise may occur as a result of construction activities for the Build Alternative. Noise levels during construction would depend on the specific construction activity conducted. Construction noise would generally occur during daytime hours when noise levels are typically higher due to everyday activities. UDOT would follow their standard specification for environmental protection related to minimizing construction noise.

3.9.4.3 Mitigation Analysis

The UDOT noise policy states that noise abatement can only be provided if determined to be both feasible and reasonable. Feasibility of abatement is based on constructability and engineering considerations. For example, a noise barrier with gaps allowed for driveways would be ineffective and result in inadequate sight distance and visibility constraints and would, therefore, not be feasible. Furthermore, if a noise barrier cannot provide a minimum of 5-dBA noise reduction for at least 75 percent of front-row (adjacent) receivers, it is not considered feasible. Reasonable mitigation implies common sense and good judgment. For example, construction of the noise abatement measure must be cost-effective per receiver benefited. A benefited receiver is defined by UDOT as a receiver predicted to receive a minimum noise reduction of 5-dBA as a result of noise abatement.

Of the 46 impacted noise-sensitive receivers, 29 receivers were dismissed from further noise abatement consideration because abatement was not deemed feasible. R2, R5, R42, R105, R140, and R141 would require gaps in any proposed noise barriers to allow for driveway access to the properties, rendering the barriers ineffective for noise abatement. Further, placing walls close to access points would result in inadequate sight distance, which would be a safety concern.

The properties associated with R7 are higher in elevation than the roadway, and any barrier proposed would have to be placed near the back of sidewalk. Therefore, a very tall noise barrier would be needed to provide adequate noise reduction, which would not be cost effective and reasonable. R74, R108, and R129 (the three churches in the study area) are facilities that do not provide frequent outdoor use. As such, only the interior noise levels were considered (Category E on Table 3.9-1). Following FHWA guidelines established in the Highway Traffic and Noise Analysis and Abatement Policy, the exterior noise levels were decreased by 25 dBA, resulting in predicted interior noise levels of 44 dBA for R74 and 45 dBA for R108 and R129. Since the threshold for considering noise abatement is 51 dBA, mitigation was not considered.

For the remaining receivers, eight-foot high noise barriers were considered in four areas for the outstanding ten impacted noise-sensitive receivers. Three of these areas—R11, R128, and R135—are on 5400 South, and the fourth area—R150—is south of 5400 South on 4015 West. For each area on 5400 South, the barrier was modeled in two different locations: five feet behind the new sidewalk and at the back edge of acquired properties (placing the barriers at the back edge of the acquired properties typically provides a greater noise reduction because the barrier would be closer to the impacted noise-sensitive receiver). For the area on 4015 West, only one modeling location was feasible: along the edge of the UDOT right-of-way. The results of the barrier analysis for the four areas modeled are described below.

- **R11, R27, and R41 (representing five receivers):** The noise barrier modeled five feet behind the new sidewalk provided less than a 1-dBA noise reduction for the two receivers grouped in R11, a 4-dBA noise reduction for the two receivers grouped in R27, and a 2-dBA noise reduction for R41. Therefore, the barrier was not deemed feasible at this location because it would not meet the 5-dBA noise reduction requirement. Although the barrier modeled at the back edge of acquired property would provide at least a 6-dBA noise reduction for the two receivers grouped in R27 and for R41, it would provide less than 1-dBA noise reduction for the two receivers grouped in R11. Therefore, the barrier would not meet the criterion of providing a minimum of 5-dBA noise reduction for at least 75 percent of front-row (adjacent) receivers at this location.
- **R128:** The noise barrier modeled five feet behind the new sidewalk and at the back edge of acquired property only resulted in a 2-dBA noise reduction. Therefore, the barrier was not deemed feasible at either location because it would not meet the 5-dBA noise reduction requirement.
- **R135 (representing two receivers):** The noise barrier modeled five feet behind the new sidewalk provided a 3-dBA noise reduction, and the noise barrier modeled at the back edge of acquired property would provide a 3-dBA noise reduction. Therefore, the barrier was not deemed feasible at either location because it would not meet the 5-dBA noise reduction requirement.
- **R150 (representing two receivers):** The noise barrier modeled at the edge of the UDOT right-of-way only resulted in a 2-dBA noise reduction for R150 and a 5-dBA noise reduction for R151. Therefore, the barrier would not meet the criterion of providing a minimum of 5-dBA noise reduction for at least 75 percent of front-row (adjacent) receivers at this location.

3.9.5 Avoidance, Minimization, and Mitigation Measures

Noise abatement was not feasible or reasonable in accordance with the UDOT noise policy (UDOT 2010). Therefore, no mitigation is required for noise.

3.10 HAZARDOUS MATERIALS

Hazardous materials, which can be encountered during the construction of roadway projects, include asbestos, lead-based paint, and total petroleum hydrocarbons. This section evaluates hazardous material impacts resulting from the proposed widening project in the study area.

The Build Alternative could disturb 7 sites with potential hazardous material contamination. Additionally, 45 buildings potentially containing asbestos or lead based paint would be demolished. UDOT would follow their standard specification for environmental protection that outlines proper removal and disposal of hazardous materials, asbestos, and lead-based paint during construction, if discovered.

3.10.1 Regulations

Hazardous waste sites are regulated on both federal and state levels. Federal mandates concerning hazardous materials fall under the Resource Conservation and Recovery Act (RCRA) of 1976 and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. RCRA mandates strict federal requirements for treatment, storage, and disposal of hazardous waste to minimize present and future risks. CERCLA provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA also establishes hazardous waste cleanup liability requirements. According to CERCLA, owners of property or those who acquire property may be held accountable for contamination found on their property.

3.10.2 Study Area

The study area for assessing hazardous material impacts is the 5400 South corridor from Bangerter Highway to 4800 West, including a half-mile area around the corridor.

3.10.3 Affected Environment

Land uses along the study area from Bangerter Highway to approximately 4270 West are comprised of commercial uses, including several gas stations, auto care centers, and dry cleaners. These are locations that may contain hazardous materials. Database searches of the EPA's EnviroMapper and Envirofacts Warehouse and Utah Division of Environmental Response and Remediation's (DERR) Interactive Map were completed on February 17, 2011. The database search identified 23 hazardous material sites within the study area. These sites include:

- Eleven underground storage tank (UST) sites,
- Seven leaking underground storage tank (LUST) sites,
- Four Tier 2 facilities (defined below), and
- One CERCLA site, the 5400 South 3600 West plume located east of the study area near 3600 West.

The Emergency Planning and Community Right-to-Know Act (EPCRA) requires industrial facilities to provide information annually to emergency planning committees and the local fire department. This information is known as the Tier 2 Chemical Inventory Report. Tier 2 data are used by local emergency response agencies (i.e., local fire departments) to determine what materials may be involved in the event of an emergency and how the response agency must mobilize to a facility experiencing an emergency.

In addition to the hazardous materials sites identified in the databases, most of the buildings adjacent to the study area were built in the 1950s. Buildings constructed in this era were often made with materials containing asbestos, such as vinyl floor tile, linoleum, ceiling tile, pipe boiler insulation, roofing material, and other materials in common use prior to 1978. Certain asbestos-containing materials (ACMs), such as roofing and roofing adhesives, were still commonly used after the year 1978. In addition to ACMs, many buildings constructed prior to the year 1978 were painted with lead-based paint. Based on the construction date of buildings along the corridor, the presence of lead-based paint and asbestos should be considered.

3.10.4 Environmental Consequences

3.10.4.1 No Build Alternative

No impacts are anticipated for hazardous materials under the No Build Alternative as there would be no disturbances to the hazardous material sites.

3.10.4.2 Build Alternative

The proposed widening project is located in an urbanized corridor, and, as such, there is potential to encounter hazardous materials during construction. **Table 3.10-1** lists the 23 hazardous material sites of potential concern associated with the Build Alternative. **Figure 3.10-1** approximates the location of each site and identifies which sites have a high, moderate, or low potential for concern for potential hazardous material contamination.

Four sites are of high concern for potential hazardous material contamination. The extent of the potential contamination on the site is unknown. The Build Alternative would require the full acquisition of these sites and would require excavation, earthwork, and/or demolition. However, sites that have had tanks removed (Map ID #10 and # 16) would have had soil remediation at the time of removal, minimizing the risk of finding soil contamination.

Three sites are of moderate concern for potential hazardous material contamination. The extent of the potential contamination on the site is unknown. The Build Alternative would require the partial acquisition of one of the sites (Map ID #19). However, the UST has been removed from the site and no impact is expected. The other sites (Map ID #17 and #18, located on the same property) had a recent release of a hazardous substance and are of moderate concern due to potential migration of hazardous materials. However, no property acquisition would be required, and no impact is expected.

Forty-five buildings constructed prior to the year 1978 are anticipated to be acquired and demolished for the Build Alternative (refer to Section 3.3 for further discussion of acquisitions). UDOT would follow their standard specification for environmental protection that outlines proper removal and disposal of hazardous materials, asbestos, and lead-based paint during construction, if discovered.

3.10.5 Avoidance, Minimization, and Mitigation Measures

No mitigation is required for hazardous materials.

Table 3.10-1: Hazardous Waste Facilities Identified in the Study Area

Map ID	Facility ID#	Facility Name	Facility Location	Type / # Tanks Removed	Potential Concern
1	4001662	Convenience Retailers #2706604	3600 W 5400 S	UST 3 in use	Low
2	UTN010161126	3600 West 5400 South Plume	3600 W 5400 S	CERCLA	Low
3	4000774	Rainbo #10	3618 W 5400 S	LUST	Low
4	4000171	Circle K No. 1258	3600 W 5373 S	UST 3 of 3	Low
5	4000153	Circle K No. 7845	3705 W 5400 S	LUST 3 of 3	Low
6	4001934	Sunmart No.874	3822 W 5400 S	UST 4 in use	Low
7	4000487	KMart No. 7512	3835 W 5400 S	UST 1 of 1	Low
8	4000578	Minit Lube No.1043	3936 W 5400 S	LUST 4 of 4	Low

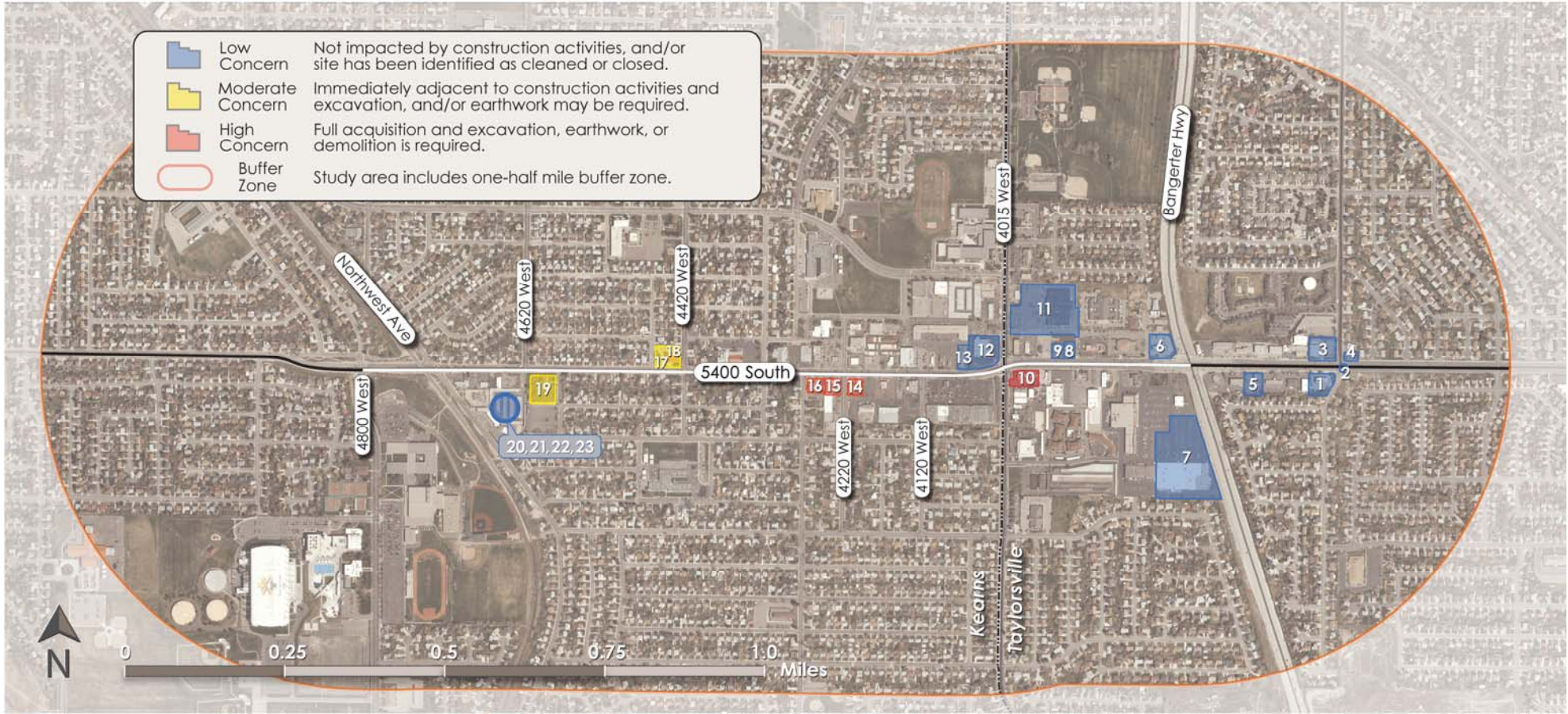
Map ID	Facility ID#	Facility Name	Facility Location	Type / # Tanks Removed	Potential Concern
9	4000993	7-Eleven 1881-12922	3950 W 5400 S	UST 2 of 2	Low
10	4001893	David Early No.4	4015 W 5400 S	UST 1 of 1	High
11	4002290	Food 4 Less	4015 W 5345 S	UST 1 of 1	Low
12	4000343	Goodyear Dealer Expansion #6067	4030 W 5400 S	UST 1 of 1	Low
13	4000167	Holiday Oil No.12	4040 W 5415 S	UST 1 of 3	Low
14	4001073	Kearns No.41	4200 W 5404 S	UST 3 in use	High
15	4000378	Holiday Oil No.2	4235 W 5415 S	LUST 2 in use	High
16	4000340	Gines 66	4261 W 5415 S	LUST 3 of 3	High

Map ID	Facility ID#	Facility Name	Facility Location	Type / # Tanks Removed	Potential Concern
17	4000887	Salt Lake County Fire Dept. No.59	4444 W 5415 S	LUST 2 of 4	Moderate
18	4000896	Kearns Sheriff Station	4444 W 5415 S	UST 1 of 1	Moderate
19	4000709	Pioneer Sand & Gravel	4600 W 5400 S	LUST 2 of 2	Moderate
20	3765	N/A	N/A	Tier 2	Low
21	3521	N/A	N/A	Tier 2	Low
22	5414	N/A	N/A	Tier 2	Low
23	3640	N/A	N/A	Tier 2	Low

N/A = Non-applicable
Name and location generically determined by DERRs Enviromapper.

Sources: DERR 2011a, DERR 2011b, DERR 2011c, and EPA 2011c

Figure 3.10-1: Hazardous Waste Sites in the Study Area



3.11 CULTURAL RESOURCES

Cultural resources include archaeological sites and historic architectural resources that are more than 50 years of age. Surveys were completed to document cultural resources in the study area (Rayle 2011, Steele 2011, Mullins 2011, and Giraud 2011).

3.11.1 Regulatory Setting

The Utah State Antiquities Act of 1992 requires that, prior to spending state funds, state agencies take into account the effect of any undertaking on districts, sites, buildings, structures, or specimens that are included in or are eligible for the National Register of Historic Places (NRHP) or the Utah State Register of Historic Sites.

In surveying and assessing National Register of Historic Places (NRHP) eligible properties within the study area, 48 historic buildings and 1 historic linear resource were identified. The Build Alternative would have an Adverse Effect on 28 historic buildings. Mitigation would reduce the impact of the loss of these resources.

The Utah Paleontological Resources Rule (UCA 79-3-508 [formerly 63-73-19]) requires any agency to take into account the effects of an undertaking or expenditure on a specimen that is included in or is eligible for inclusion in the State Paleontological Register.

3.11.2 Study Area

The study area for assessing cultural resource impacts is the 5400 South corridor from Bangerter Highway to 4800 West, including one property to the north and south of the road. In addition, properties adjacent to 4015 West from 5115 South to 5580 South are included in the study area.

3.11.3 Survey Methodology

The purpose of the cultural resource assessment is to identify properties eligible for the NRHP and assess the effects on those properties resulting from the proposed widening project. Archaeological investigations for the proposed widening project included a file search to identify previously documented cultural resources in the study area along with intensive pedestrian and reconnaissance inventories of the study area.

The survey was conducted by a qualified archaeologist and architectural historian as a selective survey, and all buildings over 45 years of age within the study area were evaluated for eligibility for listing in the NRHP. The methodology for the survey was based on the Reconnaissance Level Surveys, Standard Operating Procedures (revised January 2009) from the Certified Local Government Manual produced by State Historic Preservation Society (SHPO).

Cultural resource sites were evaluated for the NRHP under four specific criteria and with seven elements of integrity, all in accordance with the Utah State Antiquities Act (UCA 9-8-404). A cultural resource may be considered eligible for listing in the NRHP if it is associated with events that have made a significant contribution to the broad patterns of history (Criterion A); is associated with the lives of persons significant in the past (Criterion B); embodies the distinctive characteristics of a type, period, or

method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction (Criterion C); or has yielded, or may be likely to yield, information important to prehistory or history (Criterion D).

Buildings considered to meet one of the four significance criteria must also be evaluated for integrity of location, design, setting, materials, workmanship, feeling, and association. To be eligible for listing in the NRHP, a property must possess integrity of these elements as each relates to the criterion or criteria under which it would be determined eligible. Additionally, within Utah, all architectural resources documented at a reconnaissance level are evaluated using a rating system established by the SHPO. This rating system allows for the assignment of one of four ratings to buildings based upon the degree to which they retain historical and architectural integrity. Buildings that are rated A or B are considered eligible for the NRHP. Buildings that are rated C or D are not considered eligible for the NRHP (SHPO 2009).

3.11.4 Affected Environment

3.11.4.1 Historic Linear Resources

The cultural resources surveys resulted in the identification and recording of one new segment of the Denver & Rio Grande Western Railroad (D&RGW), the Garfield Branch (Site 42SL333) (**Figure 3.11-1**). The new segment is located directly west of Northwest Avenue, and it crosses over 5400 South via a modern railroad trestle bridge. The railroad has been previously recorded at several locations outside of the study area. Because the D&RGW Garfield Branch is associated with the development of mines and communities in the western Salt Lake Valley, both of which are significant historic events, the site has been previously determined eligible for the NRHP under Criterion A (association with a significant historic event) (Baxter 2001). The site within the study area was determined eligible for the NRHP under Criterion A.

Figure 3.11-1: Surveyed Properties in the Study Area



Sources: Rayle 2011, Steele 2011, Mullins 2011, and Giraud 2011

3.11.4.2 Historic Architecture

The selective reconnaissance-level architectural survey of the study area resulted in the identification of 80 historic buildings, none of which were previously recorded or evaluated (**Figure 3.11-1**). The documented buildings include 62 single-family dwellings, 15 commercial buildings, one school, and two churches. All of the buildings are located within the core of Kearns Township, which was established as a planned community by developers Arthur and S. D. Caplan in 1949.

Of the 80 properties documented within the study area, 52 of the properties have been modified to some extent and warrant a B-rating under the SHPO rating system. Of these 52 NRHP-eligible properties, one is commercial, one is a school, and the remaining 50 are single-family residences, many of which were among the first houses constructed in Kearns Township between 1949 and 1951. The remaining 28 properties (12 single-family residences, two churches, and 14 commercial properties) have been substantially modified since their original construction to render them ineligible for the NHRP. As such, these properties warrant a C-rating under the SHPO rating system.

3.11.5 Environmental Consequences

3.11.5.1 No Build Alternative

No impacts are anticipated for cultural resources (i.e., historic linear resources, historic architecture, or paleontological resources) under the No Build Alternative as no construction would occur.

3.11.5.2 Build Alternative

Historic Linear Resources

The Build Alternative would not impact the newly recorded portion of the D&RGW (Site 42SL333). Proposed widening activities would be contained within the area underneath the modern railroad bridge, and this area is wide enough to allow widening without impacting the site.

Construction activities could result in the discovery of previously unidentified historical, archaeological, or paleontological objects, features, sites, or human remains. However, UDOT would follow their standard specification for environmental protection that would minimize impacts to these resources.

Historic Architecture

The eligibility and effect determinations for historic properties that would be affected by the Build Alternative are listed in **Table 3.11-1**. The locations of affected resources are shown on **Figure 3.11-2**. Of the 48 NRHP eligible buildings in the study area, the Build Alternative would have an Adverse Effect on 28 buildings that would have to be demolished. Easements could be required for 19 historic properties to accommodate proposed widening project activities (e.g., movement of construction equipment, relocation of utilities, staging, and/or storage). A small portion of the Kearns Junior High School property would also be acquired. The easements and partial acquisition would not directly or indirectly alter any of the characteristics that contribute to the significance of the properties. Therefore, the Build Alternative would have No Adverse Effect on 20 eligible historic properties.

Figure 3.11-2: Effects on Historic Properties



Sources: Rayle 2011, Steele 2011, Mullins 2011, and Giraud 2011

Table 3.11-1: Summary of Eligibility and Effects Determinations for Historic Properties

Address	Historical Eligibility	Type/ Width of Acquisition	NRHP Finding of Effect
5305 S 4040 W	B Rating/Eligible	Partial Acquisition	No Adverse Effect
4188 W 5415 S	B Rating/Eligible	Easement	No Adverse Effect
4380 W 5415 S	B Rating/ Eligible	Easement	No Adverse Effect
4390 W 5415 S	B Rating/ Eligible	Easement	No Adverse Effect
4420 W 5401 S	B Rating/ Eligible	Easement	No Adverse Effect
4476 W 5415 S	B Rating/ Eligible	Easement	No Adverse Effect
4486 W 5415 S	B Rating/ Eligible	Easement	No Adverse Effect
4496 W 5415 S	B Rating/ Eligible	Easement	No Adverse Effect
4504 W 5415 S	B Rating/ Eligible	Easement	No Adverse Effect
4514 W 5415 S	B Rating/ Eligible	Easement	No Adverse Effect
4526 W 5415 S	B Rating/ Eligible	Easement	No Adverse Effect
4534 W 5415 S	B Rating /Eligible	Easement	No Adverse Effect
4542 W 5415 S	B Rating /Eligible	Easement	No Adverse Effect
4552 W 5415 S	B Rating /Eligible	Easement	No Adverse Effect
4566 W 5415 S	B Rating /Eligible	Easement	No Adverse Effect
4576 W 5415 S	B Rating /Eligible	Easement	No Adverse Effect
4586 W 5415 S	B Rating /Eligible	Easement	No Adverse Effect

Address	Historical Eligibility	Type/ Width of Acquisition	NRHP Finding of Effect
4594 W 5415 S	B Rating /Eligible	Temporary Easement	No Adverse Effect
4604 W 5415 S	B Rating /Eligible	Easement	No Adverse Effect
4620 W 5405 S	B Rating /Eligible	Easement	No Adverse Effect
4620 W 5404 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4648 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4674 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4690 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4698 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4714 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4561 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4551 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4541 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4531 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4521 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4511 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4501 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4491 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect

Address	Historical Eligibility	Type/ Width of Acquisition	NRHP Finding of Effect
4481 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4471 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4461 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4451 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4420 W 5430 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4391 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4381 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4371 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4361 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4351 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4341 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4299 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4289 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect
4279 W 5415 S	B Rating /Eligible	Full Acquisition	Adverse Effect

Sources: Rayle 2011, Steele 2011, Mullins 2011, and Giraud 2011

3.11.6 Consultation

3.11.6.1 Paleontological Consultation

Consultation regarding the presence of and potential for encountering paleontological resources within the study area was undertaken via written correspondence with the Utah Geological Survey (UGS) (Appendix A). In a written letter, UGS indicated that there are no known paleontological localities recorded within the study area and that recent alluvial deposits that are exposed within the study area have a low potential for yielding significant fossil localities. UGS stated that unless paleontological resources are discovered during construction activities, the proposed widening project should have no effect on paleontological resources.

3.11.6.2 SHPO Consultation

In accordance with the Utah State Antiquities Act (UCA 9-8-404), the archaeological and architectural surveys will be submitted for SHPO consultation and concurrence. A Determination of Eligibility and Finding of Effect (DOE/FOE) was submitted to SHPO, and concurrence was received on June 1, 2011. A copy of the DOE/FOE is included in Appendix A.

3.11.6.3 Native American Consultation

Letters were sent to seven Native American tribes/bands (Appendix A). The letters provided information on the proposed widening project and requested tribal representatives to notify UDOT if there are any historic properties of traditional religious and/or cultural importance that may be affected by the proposed widening project. To date, no comments have been received.

3.11.6.4 Certified Local Government Consultation

The City of Taylorsville Certified Local Government (CLG) and Salt Lake County CLG were notified that the proposed widening project would have adverse effects in a letter dated March 17, 2011, and were invited to be a consulting party. To date, responses have been received from the City of Taylorsville CLG, Salt Lake County, and the Kearns Historical Society, providing historical information about the study area and indicating that they would like more information about the proposed widening project (Appendix A).

3.11.7 Avoidance, Minimization, and Mitigation Measures

A Memorandum of Agreement (MOA) has been prepared in consultation with City of Taylorsville CLG, Salt Lake County CLG, and SHPO to account for the effect of the Build Alternative on historic properties (Appendix A). The stipulations of the MOA are that UDOT will:

- Document the 28 historic properties that would be adversely affected by the Build Alternative according to Utah State Intensive Level Survey Standards.
- Provide funding for a Kearns Township historic preservation project.
- Report back to SHPO on activities carried out for the agreement.

- Ensure work is completed by persons meeting the Secretary of Interior's Historic Preservation Qualification Standards
- Complete work within 5 years.
- Follow standard specifications in the event of inadvertent discoveries of historic properties, archaeological sites, and paleontological resources.

3.12 VISUAL QUALITY

The aesthetic quality of a community is dependent in part upon its visual resources, the physical features that make up the visible landscape, which includes natural aspects like mountains, land, and vegetation as well as human-made features such as buildings, roadways, signs, and bridges.

This section describes both the existing conditions related to the visual quality of the study area and the visual changes that would result from the proposed widening project.

The Build Alternative would result in visual changes (e.g., a wider roadway, new sidewalks, demolition of some buildings), but it would not degrade the visual quality of the study area.

3.12.1 Regulations

There are no applicable visual quality regulations.

3.12.2 Study Area

The study area includes all areas where physical changes associated with the proposed widening project could be seen, which includes two parcels adjacent to:

- 5400 South between Bangerter Highway and 4800 West, and
- 4015 West between 5115 South and 5580 South.

3.12.3 Affected Environment

Views in the study area are influenced by topography, vegetation, and the built environment. 5400 South is an east-west route, and the Wasatch and Oquirrh Mountains dominate background views to both the east and west, respectively. The following sections discuss typical views in the commercial and residential areas along the study area.

3.12.3.1 Commercial Areas

Along 5400 South between Bangerter Highway and 4270 West as well as on the south side of 5400 South between 4620 West and Northwest Avenue, views are dominated by commercial land uses (**Figure 3.12-1**). Commercial areas largely consist of modern commercial buildings built between 1950 and 1985 ranging in style. Setbacks vary along the corridor from about 30 feet to 200 feet, resulting in a line of sight that is not cohesive. Buildings in this area are generally single story and vary from small, individual buildings (e.g., 1,600 square feet) to large, "big box" retail sites (e.g., 36,000+ square feet). Along the corridor, the most dominant visual features are business signs and above ground power lines. The signs

vary in size and height and do not contribute to a unified appearance. There is minimal landscaping to break up the urban environment.

Figure 3.12-1: Typical View within the Commercial Area in the Study Area



3.12.3.2 Residential Areas

Between 4270 West and Northwest Avenue, views are dominated by residential land uses (**Figure 3.12-2**). This section of the corridor largely consists of residences built in the 1950s. Residences are consistent in style and design. On the south side, most residences are Minimal Traditional style, and on the north side, most residences are Ranch style. Setbacks are consistently around 40 feet from the existing curb, providing a cohesive line of sight. There are a number of mature trees in yards set back from the corridor, and front yards are generally grass, which breaks up the urban development. Some of the residences along the corridor are well maintained, but there are a number of residences that are suffering from overgrown landscaping and the accumulation of refuse. The above ground power poles along the north side of the street are highly visible and are not necessarily consistent with the residential setting. The roadway, sidewalk, curb, and gutter are older infrastructure and are in various states of disrepair.

Figure 3.12-2: Typical View within the Residential Area in the Study Area



3.12.4 Environmental Consequences

A visual assessment was conducted by driving and walking the study area to consider the aesthetic effects of the alternatives.

3.12.4.1 No Build Alternative

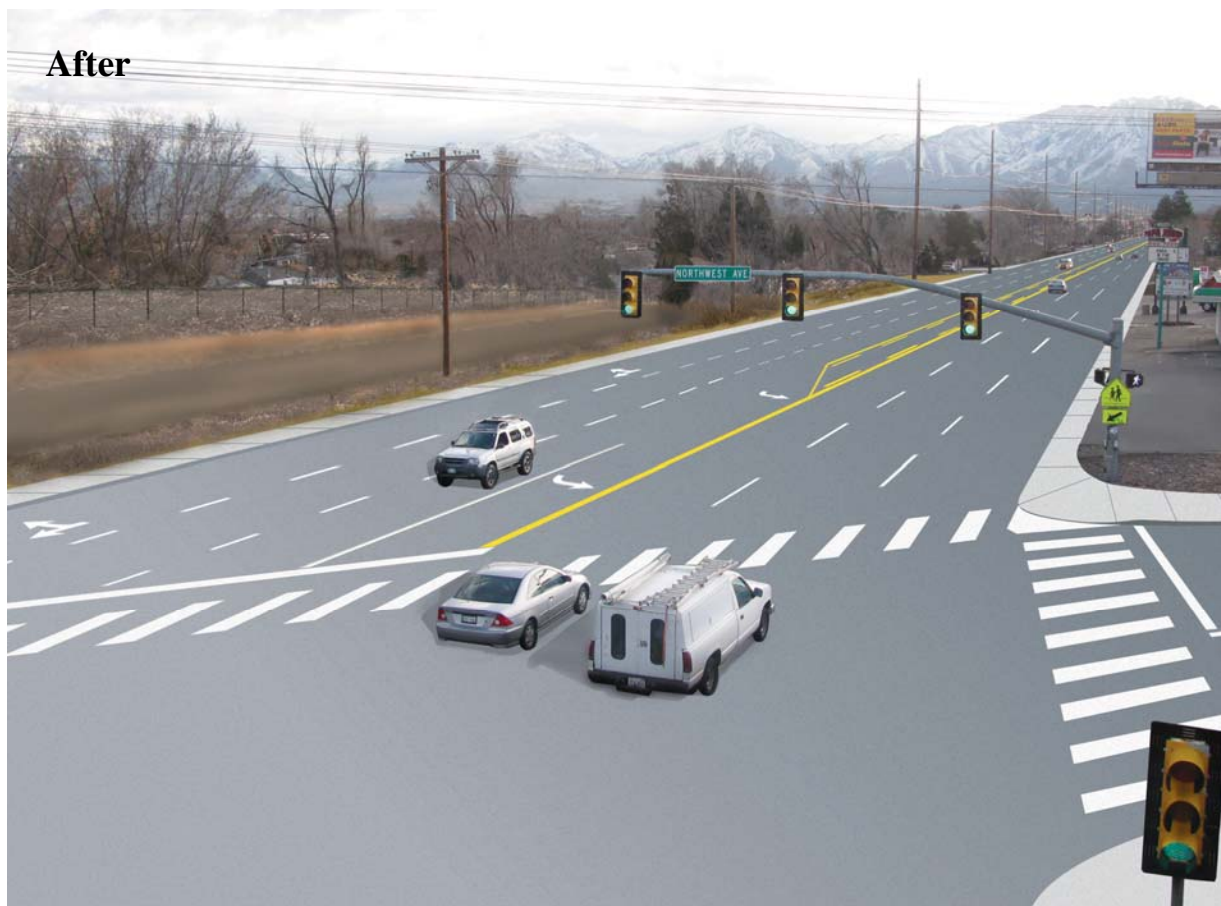
No impacts are anticipated for visual quality under the No Build Alternative as the study area is built out and is not expected to experience substantial visual changes along 5400 South.

3.12.4.2 Build Alternative

Background views of the mountains to the east and the west would not change as a result of the proposed widening project. The Build Alternative would directly affect foreground views within the study area. The existing 66 foot roadway between 4015 West and Northwest Avenue would be widened to approximately 100 feet. This wider footprint would necessitate the acquisition and demolition of a number of structures along the corridor (see Section 3.3). Between 4015 West and 4580 West, widening would occur to the south of the existing road, and several residences and businesses would be acquired and demolished. Between 4580 West and Northwest Avenue, widening would occur to the north of the existing roadway and residences on the north side of the street would be acquired and demolished. A visual simulation was prepared to demonstrate visual changes resulting from the Build Alternative (**Figure 3.12-3**).

Figure 3.12-3: 5400 South from Northwest Avenue Looking East Before and After





The Build Alternative would replace the roadway, sidewalk, curb, and gutter, upgrading its dilapidated appearance. Many of the residences along the corridor would be eliminated as a result of the proposed widening project. There would be about 80 feet of land between the roadway and the back property line of the second row of residences. At this time, it is not known what would happen to this property after project construction. A detention basin would be constructed to collect and store runoff near Northwest Avenue and 4620 West, and this facility would likely be vegetated. While these changes would be apparent, visual quality would generally remain the same. UDOT would provide baseline landscape treatments (topsoil, seeding, and mulch) in accordance with their Aesthetics Policy. Additional aesthetic treatments along 5400 South (e.g., park strips, lighting, landscaping, trails, and privacy walls) would not be provided by UDOT. However, UDOT is consulting with Salt Lake County to discuss betterments along the corridor.

3.12.5 Avoidance, Minimization, and Mitigation Measures

No mitigation is required for visual quality.

CHAPTER 4 COMMENTS AND COORDINATION

Before any action is taken on a proposed project, the Utah Department of Transportation (UDOT) identifies issues related to the project that merit further study. This process is called scoping. It is important during the scoping process for UDOT to coordinate with the public that could be impacted by the project and with agencies that oversee the management of natural resources, public services, and planning in the study area.

Chapter 4 documents the public scoping process for the proposed widening project. It describes the environmental scoping process and the tools used in the process, including strategies for both providing information to the public about the proposed widening project and soliciting input from the public on the environmental document.

4.1 AGENCY SCOPING

Agencies help UDOT to identify issues that should be analyzed during the study and to help determine whether any permits or approvals would be needed for construction.

UDOT sought input from agencies that have jurisdiction in the study area. Agency comments, along with public input and technical analysis, helped UDOT study and refine proposed widening project alternatives. In addition to the agencies listed below, UDOT contacted the local and state government officials who represent the study area for the reason of informing the officials throughout the study process. The study team notified agencies and officials of the study and scoping process in the following ways.

- On December 7, 2010, UDOT appeared before the Kearns Township Community Council to notify them of the study.
- On January 17, 2011, the study team sent letters to 30 agencies and government officials requesting their involvement in the study. A copy of this letter is included in Appendix A.
- On February 15, 2011, UDOT appeared before the Kearns Township Community Council to answer questions about the proposed widening project.

The following agencies and officials received letters inviting them to be involved in the study. Asterisks (*) indicate the agencies that have responded.

- | | |
|--|---|
| ▪ City of Taylorsville Certified Local Government | ▪ Granite School District Transportation |
| ▪ City of Taylorsville Engineering Department* | ▪ Kearns Township Community Council* |
| ▪ City of Taylorsville Mayor's Office | ▪ Kearns Township Improvement District* |
| ▪ Comcast | ▪ Questar |
| ▪ Governor's Office of Public Lands Policy Coordination* | ▪ Qwest* |
| | ▪ Rocky Mountain Power |
| | ▪ Salt Lake County Certified Local Government |

- Salt Lake County Department of Public Works, Planning & Development*
- Salt Lake County Westside Township Representative*
- State of Utah Resource Development Coordinating Committee
- U.S. Army Corps of Engineers
- Unified Fire Authority*
- Unified Police of Greater Salt Lake*
- Union Pacific Railroad
- Utah Division of Air Quality
- Utah Division of Drinking Water
- Utah Division of Environmental Response and Remediation
- Utah Division of History
- Utah Division of Solid and Hazardous Waste
- Utah Division of Water Quality
- Utah Division of Wildlife Resources
- Utah House District 38
- Utah House District 39
- Utah State Senate District 5*
- Utah Transit Authority*
- Wasatch Front Regional Council*

4.2 PUBLIC SCOPING

This section summarizes issues raised by the public that UDOT considered during the environmental study. This section also explains how UDOT notified the public of the opportunity to share their input during the scoping process. UDOT used the public scoping process to gather input and determine issues that should be considered in the environmental study.

In order to maximize public input during the scoping process, UDOT communicated information to the public in a variety of ways. Interested stakeholders submitted comments through a telephone comment line, an email address, a website comment page, and in writing at the public scoping open house.

4.2.1 Public Notifications

UDOT employed a variety of methods to educate, inform, and solicit feedback from the public regarding the public scoping process and meeting activities. These notification methods included leaving flyers on doors in the study area; placing legal advertisements in statewide newspapers; mailing 6,600 postcards; sending an e-newsletter; posting online advertisements on Facebook; establishing a Facebook event page; distributing notification on Twitter; posting the event information on the City of Taylorsville, Kearns Township, and UDOT's websites; and sending information home with local school children.

4.2.2 Public Scoping Open House

UDOT hosted a public scoping open house on January 27, 2011, from 5:30 PM to 7:30 PM at Oquirrh Hills Elementary School (5241 South 4280 West, Kearns Township). More than 200 people attended and participated in the open house to voice their concerns, comments, and suggestions.

Staff members were available to provide information on the purpose of the proposed widening project, to answer questions, and to discuss current transportation issues with participants. A separate area was set up specifically for participants to ask questions and get information on UDOT property acquisition.

Participants were encouraged to write their transportation concerns and suggestions for improvements on comment forms, and the participants were given the study contact information if they wanted to write a comment later.

4.3 PUBLIC AND AGENCY SCOPING COMMENTS

The study team will continue to gather public comments concerning the proposed widening project throughout the study. Comments received during the public scoping period from January 17, 2011 through February 4, 2011, are included in Appendix C.

4.3.1 Scoping Comments Summary

The comment form provided at the public scoping open house suggested topic areas for comments, as well as solicited participants for other comments UDOT should consider. UDOT received 122 comments during the scoping process. A summary of comments received are presented below. The exact transcription of comments is included in Appendix C.

- Residents want to receive a fair price for their homes.
- Participants were very concerned about elderly, long-term residents, and those with financial situations that would not allow them to establish a new home.
- Participants were concerned about potentially losing the Veteran's Memorial at the 4015 West and 5400 South intersection and losing the community facilities and services along 5400 South.
- Participants believed improvements to intersections and signal timing would reduce congestion.
- Participants identified a need for improved capacity, such as shoulders along the roadway to keep snow and garbage cans off sidewalks.
- Participants suggested UDOT widen alternative streets such as 4700 South.
- Participants identified a need to improve left turn lanes at 4800 West and Cougar Lane as well as other side streets.
- Participants identified a need to improve drainage along the roadway, particularly at the intersections of 4015 West, 4240 West, and 4270 West.
- Participants perceived a need to improve sidewalks and include crosswalks for pedestrian safety.
- Participants identified a need for pedestrian access across 5400 South, particularly to the schools and library.
- Participants would like bicycle lanes or a trail added along 5400 South.
- Participants suggested lowering speed limits on 5400 South to make the roadway safer for pedestrians.
- Participants want to maintain community vitality, cohesiveness, and community facilities.
- Participants are concerned about keeping businesses in Kearns Township, especially during construction.
- Participants are concerned about what impact the proposed widening project would have on property values and local businesses.

4.4 COMMENTS ON THE DRAFT STATE ENVIRONMENTAL STUDY

The draft State Environmental Study (SES) was made available for public review on April 22, 2011. It was available in hard copy at the City of Taylorsville and Kearns Township public libraries. The draft was also available electronically on the project website at www.udot.utah.gov/5400south.

4.4.1 Public Outreach

Several meetings were held with individual business owners, public officials, and other stakeholders between the months of March and May 2011 to provide updates and discuss potential impacts as a result of the Build Alternative. On April 19, 2011, UDOT study team members canvassed the first and second row of businesses and residents on 5400 South to inform them how the proposed project would affect their properties and to invite them to the public hearing. On April 27, 2011, UDOT held two property acquisition workshops for property owners that would be affected by the Build Alternative. The intent was to educate the property owners about UDOT's acquisition process. Individual stakeholder meetings are ongoing to help property owners with acquisition concerns.

Numerous public hearing notifications were provided between April 19 and May 12, 2011. Notifications included mailing postcards; placing legal advertisements in regional newspapers; sending an e-newsletter; leaving posters and flyers for businesses to post along the corridor; posting online ads on ksl.com and Facebook; establishing a Facebook event page; distributing notification on Twitter; sending out legal notices; and posting information on the City of Taylorsville, Kearns Township, and UDOT's websites.

4.4.2 Public Hearing

A public hearing was held on May 12, 2011, from 5:30 PM to 7:30 PM at David Gourley Elementary School (4905 South 4300 West, Kearns Township). Over 162 people attended and participated in the public hearing to voice their concerns, comments, and suggestions.

The format for the meeting was an open house. Attendees signed in and were given comment forms. The study team provided visual aids representing the purpose and need of the proposed project and relevant issues associated with the Build Alternative. Large scroll plot maps showing the Build Alternative alignment were also displayed. Members of the study team were on hand to answer questions and guide attendees through the decision-making process.

4.4.3 Public Comments

As noted above, members of the public were asked to submit their comments in writing, by mail, by fax or electronically. Comment cards were distributed at the public hearing, and an online form was created to accommodate those wishing to comment in that manner. Public comments were accepted between April 22 and May 26, 2011. UDOT received 63 written comments from the public hearing and approximately 61 emailed comments. **Table 4-1** shows comments received and each response provided by the study team. Responses are provided for comments that address concerns about the adequacy or content of the draft SES. Responses are not provided to a commenter's opinions about UDOT or projects outside the scope of this study. Comments are included exactly as transcribed or submitted from the commenter.

Table 4-1: Public Comments and Responses

Comment #	Name	Comment	Response
1	Kyle McMullin	Is the current thought (plan) to widen the 5400 South (west of Bangerter) on one side only or to take from both sides of the road?	Widening is proposed to occur on both sides of the road. The majority of the roadway widening would occur on the south side of 5400 South. However, some widening would occur to the north between 4620 West and Northwest Avenue to align the roadway under the railroad bridge.
2	Greg Wilder	Near the corner of 54th and Bangerter is a Arctic Circle hamburger store. That should be taken out. It would increase the accessibility to the shopping center (West Point) of which our property appears to be a part. Please consider this approach.	The referenced property does not need to be acquired for the proposed project. However, the Build Alternative would provide a new signal at approximately 3900 West (just west of the referenced property) that would provide additional accessibility to the commercial area to the south of 5400 South.
3	Kris Farnsworth	We are one of the homes that will be taken down for road reconstruction. UDOT came to our home last night with a map showing the plan. They told us that we could go to the website and look at the map again. I have looked, I can't find it. Can you tell me how to see it? The map was color coded showing which homes and business this was going to affect whether partial acquisition and full acquisition.	The commenter was directed to the project website (http://www.udot.utah.gov/5400south/dld/Easement_Acquisitions_and_Relocations.pdf), where the map is available.
4	Janice Snider	<p>What is being planned for the bridge over 5400 South to accommodate railroad tracks. Prior to the widening of this bridge bottlenecking was prevalent and there were a lot accidents caused by the sudden narrowing of the road.</p> <p>I'm concerned that if you widen 5400 to 4800 West and don't widen the road under the overpass it will only create a bottleneck and number of accidents will dramatically increase.</p> <p>Kearns is basically a bedroom community. What impact will this project have on the businesses along 5400 South. I believe these businesses are an asset to our community and need to remain viable.</p> <p>I would love to come to a public hearing to listen and speak to the issue but my health prevents that from happening. Prior to my ill health I was very active in this community where I have lived for 32 years. I served nine years on the Kearns Town Council, worked with Planning and Zoning on a Master Plan for Kearns, and spent 11 years on the Board of Trustees for the Kearns Oquirrh Park Fitness Center (and on the board of the Olympic Oval Management Committee). I have a vested interest in this community.</p> <p>I don't doubt the need for better traffic flow on the West side, not only on 5400 South but also on 4700 South and 6200 South. That said, I also believe we need to be sensitive to the needs of the current businesses and provide for them also.</p> <p>I assume you are buying them out. Are they being paid their actual value, their tax assessed value, or something less? Are you helping them with relocation? There are few remaining locations in Kearns where businesses can relocate. Have you considered a land swap to help them relocate in Kearns? The Northeast and Northwest corners of 5600 West and 6200 South are currently vacant lots. At one time they were planned for commercial.</p> <p>I'm glad you're looking to widen 5400 South but not at the detriment of many of the businesses who have been in Kearns for decades.</p>	<p>Regarding comments on the bridge over 5400 South, no improvements are planned for the referenced bridge. However, there is enough width to continue roadway widening to seven lanes under the bridge over 5400 South. Additionally, the Build Alternative includes dual left turn lanes from 5400 South to 4800 West. Traffic modeling shows that these turn lanes accommodate existing and future traffic demand.</p> <p>The economic impact of business relocations is discussed in Section 3.4 of the SES. Private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT. A relocation study will be done to help businesses relocate to a desirable location, which may include relocating within Kearns Township.</p> <p>Regarding future transportation improvement plans in and around the study area, Wasatch Front Regional Council's Regional Transportation Plan, 2007-2030 (2030 RTP), includes a comprehensive plan for improvements to the transportation network to accommodate projected population growth within the Salt Lake Valley (WFRC 2007). These plans include future widening of 4700 South.</p>
5	Mary Villanueva	I would love to have 5400 south widened. However there has to be a place where pedestrians and cyclists can travel safely. As of now, there is no shoulder in either direction and the sidewalks get blocked on garbage collection day. pedestrians have to walk in the street around the garbage bins. There have been several times when I have had to swerve around cyclists and pedestrians in my daily commute. When the sun is in our faces in the morning and evening commutes, it is very difficult to see them.	The Build Alternative would include construction of sidewalks that vary in width from 4 to 10 feet in accordance with Americans with Disabilities Act standards. These wider sidewalks would provide improved facilities for the disabled, transit users, pedestrians, and students. The Build Alternative also includes a 3-foot striped shoulder that would provide a shared roadway for bicyclists and motorists. Both the sidewalk widening and striped shoulders would be an improvement over the existing conditions. More information on bicyclists and pedestrians considerations is included in Section 3.5 of the SES.
6	Robin Johnston	my address is 5481 s 4320 west I have a handicap in my home very concerned	Comment acknowledged. The Build Alternative would comply with Americans with Disabilities Act standards.

Comment #	Name	Comment	Response
7	Evan Kline	I would appreciate any information regarding impact for properties located between 5375 S. & 5415 S	As part of the environmental study, UDOT considered all applicable environmental impacts along the corridor. The results of this analysis are included in Chapter 3 of the SES. In particular, relocations and property acquisitions are shown on Figure 3.3-1 in the SES.
8	Donald Lewin Nelson	As a property owner in the general area and as a user of 5400 South, I am very concerned about this project and its environmental impacts.	Comment acknowledged. As part of the environmental study, UDOT considered all applicable environmental impacts along the corridor. The results of this analysis are included in Chapter 3 of the SES.
9	Darlene Martinez	It would be nice if changes were made to 5400 south. The traffic out here is unreal. The street lights out here in Kearns could use a change as well, that is one of the biggest problems out here too. There needs to be a more constant flow of traffic. This road gets just as bad as the freeways during rush hour. The changes to Bangerter Highway were nice, however there needs to be changes from 5400 South and Bangerter further west. Too many accidents and close calls for pedestrians. I have lived out here in Kearns for 23 years and the change to Bangerter Highway is the biggest thing that has taken place. Our roads need to be upgraded along with all of the traffic lights. There needs to be another green light after the turn light has changed, so that way more left and right turns can be made. I know I can only speak for myself and my family when I say we are tired of dealing with so much traffic. Please help UDOT. This is a fast growing community and something needs to be done.	<p>The Build Alternative would widen the road between Bangerter Highway and 4800 West to three lanes in each direction with a center turn lane (seven lanes total), as well as improve sidewalks and drainage along the roadway. Signals would be coordinated along the corridor to improve the flow of traffic. These improvements would accommodate existing and future travel demand and improve safety along the roadway.</p> <p>Wasatch Front Regional Council's Regional Transportation Plan, 2007-2030, includes a comprehensive plan for improvements to the transportation network to accommodate projected population growth within the Salt Lake Valley (WFRC 2007). Future planned improvements in the Kearns Township area are shown in Figure 1-4 of the SES.</p>
10	Kimberly Ivie	Before they start on another project, maybe they should fix all the half assed jobs that should be fixed. Almost every pot-hole and road that have been patched up, ended up having to be fixed 2 days later! There is no reason why 5400 South should be straightened or widened until all the other roads are fixed properly. If all the houses and businesses are torn down it takes away jobs and homes increasing our unemployment rates.	To meet current and projected traffic demands, UDOT has four strategic goals: 1) take care of what we have, 2) make the system work better, 3) improve safety, and 4) increase capacity. The commenter's concerns are acknowledged as they relate to the first strategic goal. Maintenance of existing roads is an important component that UDOT continues to strive to address. This project addresses maintenance concerns through pavement rehabilitation and drainage improvements. Additionally, the proposed project increases roadway capacity, enhances roadway safety, and improves roadway efficiency. All of which are key goals to improve and sustain the transportation network. Social, relocation, and economic impacts of the project are discussed in Sections 3.2, 3.3, and 3.4 of the SES.
11	Daniel Gunderson	Please do not add any more continuous flow intersections. They are not very helpful at all. I live in an area directly affected by the new intersections on Bangerter at 47th and 54th. Apart from the signal at 54th destroying the ramp to access the shopping center (majorly hurtful to the businesses in that center), the intersections do not save us any time. Making a right turn, in fact, takes about ten times longer. Instead of stopping, then turning on a red, I have to sit and wait for the light to change. Then I turn right, only to be greeted by another red light (for left turns coming from the opposite direction), and I have to wait even longer. I used to spend 30-60 seconds making a right turn at that intersection. Now it takes nearly five minutes. Please do not add any more of them.	There will be no continuous flow intersections added as part of the Build Alternative between Bangerter Highway and 4800 West.
12	Jemima Lopez	I like the idea a lot but I want to see more of what is thought to do...I am excited b/c this area needs to be upgraded and there is so much traffic and really only if we could get a freeway over here that would be amazing but are you guys thinking like tracks or what exactly are you thinking????...I live in the Kearns area, right of 5400 and I would love to see change and be part of it! Thank you!!!!	<p>Comment acknowledged. As discussed throughout the SES, the Build Alternative includes roadway widening between Bangerter Highway and 4800 West to three lanes in each direction with a center turn lane (seven total lanes). The Build Alternative also includes improvements to sidewalks, drainage, and intersections within the study area.</p> <p>Wasatch Front Regional Council's Regional Transportation Plan, 2007-2030, includes a comprehensive plan for improvements to the transportation network to accommodate projected population growth within the Salt Lake Valley (WFRC 2007). Future planned improvements in the Kearns Township area are shown in Figure 1-4 of the SES.</p>

Comment #	Name	Comment	Response
13	Criss Rosenlof	I am contacting you as a member of the public that uses a bicycle as my main mode of transportation for work. I commute 20 miles round trip every day to get to my job at the VA hospital. I just want to throw in my support for more bike lanes and a friendlier environment for cyclists and pedestrians on our streets, especially streets like 5400 South, which are extremely dangerous for us bike-commuters.	While currently there is not a designated lane for bicyclists included as part of the proposed project, The Build Alternative also includes a 3-foot striped shoulder that would provide a shared roadway for bicyclists and motorists, which is an improvement over the existing conditions. More information on bicyclist and pedestrian considerations is included in Section 3.5 of the SES.
14	Darrell Wood	I have read your documentation about the proposed changes to 5400 South between Bangerter Highway and 4800 West. Those of us who have lived in Kearns for any length of time (in my case, 32 years) would confirm that the findings of your study are correct. Something has needed to be done with that stretch of 5400 South for a long, long time. Since I live west of the study area, I am especially interested in knowing what UDOT’s plans are on 5400 South between 4800 West and 5600 West. Surely you don’t think that this widening project between Bangerter and 4800 West is going to entirely fix the problem. It just moves it farther west. I know that the WFRC has plans to widen 5400 South between Bangerter Highway and Mountain View Corridor. I would really like to know if there are pending plans to widen 5400 South between 4800 West and 5600 West. Can you give any timetables or potential impacts regarding that project (which surely will come)?	Commenter is correct, the Wasatch Front Regional Council’s Regional Transportation Plan, 2007-2030, includes plans to widen 5400 South from 4800 to Mountain View Corridor during Phase 1, which is scheduled to happen between the years 2007 and 2015 (WFRC 2007). However, at this time, detailed information about project timetables and potential impacts is not available.
15	Darrell Wood	I just hope UDOT realizes that, whenever they do these projects, they impact the lives of many people – all for the sake of building a faster way to get from Bangerter to Mountain View. I also still don’t understand why the WFRC is totally ignoring the recommendations of the SL County East-West Legislative Study (on your website) done in 2008 (funded by taxpayers) that determined that the best alternative was to widen 6200 South, not 5400 South.	UDOT acknowledges that this project will impact the lives of many people. Widening of 5400 South was included in the Wasatch Front Regional Council Regional Transportation Plan 2007-2030. The Salt Lake East-West Transportation Planning Study (completed in 2008) provided a list of recommended improvements beyond those projects already included in the Regional Transportation Plan. Therefore, widening of 5400 South was included in the baseline conditions for the Salt Lake East-West Transportation Planning Study. Widening of 6200 South is not included in the Regional Transportation Plan, 2007-2030.
16	Kent Collard	From what I am told this is going to cause a major problem with our already big accident problem.	In addition to accommodating travel demand on 5400 South and improving regional mobility of the corridor, the secondary purpose of the proposed project is to improve safety on 5400 South as discussed in Section 1.3 of the SES. It is anticipated that the proposed project would reduce accidents along the corridor by reducing current congestion that contributes to crashes. Additionally, the Build Alternative proposes to implement a ThrU-Turn intersection at 5400 South and 4015 West, which will improve safety, as discussed in Section 2.5 of the SES.
17	Lola Wiles	I do not think you should widen 5400 south at the cost of the families that have houses on that street. The cost to buy everyone out is too much to the taxpayer. Why don't you widen 6200 South. Not as many homes to buy out. Open fields still available. If you widen 6200 South. It will relieve some congestion from 5400 South.	Widening 5400 South is consistent with Wasatch Front Regional Council’s Regional Transportation Plan, 2007-2030. 6200 South is not planned to be widened since it does not provide the needed connectivity with regional transportation systems that 5400 South does (e.g., I-15 and SR-111).
18	Jackie Kingston	Will 4099 West 5400 South be affected by this project? If so, how?	Impacts on specific properties can be found in Section 3.3 of the SES.

Comment #	Name	Comment	Response
19	Sherie Brinkerhoff	Since the shopping center which had Kmart is almost empty, noise and traffic will have to be from 2-3 years ago. There needs to be light on 4015 west between 5400 S and 6200 S. A bridge over 5400 S for Junior High. The houses in Westward Heights Subdivision (4015 W to Bangerter or 5615 S) will be impacted by the changes on 5400 South. We already wait 10-15 minutes to turn right onto 4015 W during AM driving time. Making a left hand turn from 4015 W into the subdivision during PM driving time is almost impossible. What is going to be done about the water problem at the intersection of 4015 W and 5400 S? Where the u turns are located? By the Jr High- major problem. How far south on 4015 is the u turn going? Fox Hills Elem will also be impacted.	<p>Noise and traffic analysis followed UDOT policies and standard practices (see Section 1.1.4 and 3.9.1 of the SES). Noise and traffic projections assume growth in traffic volumes, as identified by the Wasatch Front Regional Council's travel demand model.</p> <p>The Build Alternative would add signalized u-turns on 4015 West at Sam's Boulevard and Point Lane. The proposed project would not affect through-traffic volumes on 4015 West south of Point Lane or north of Sam's Boulevard, or impact the access to Westward Heights Subdivision. The proposed ThrU-Turn intersection is expected to reduce congestion and intersection queuing on both 5400 South and 4015 West since it would provide more green time for vehicles traveling through the intersection. Consequently, access to 4015 West from adjacent sub-divisions may actually improve.</p> <p>No additional signals outside of the study area are proposed.</p> <p>The safety of the ThrU-Turn intersection is discussed in Section 2.5 of the SES. An overhead crossing is not proposed for the Build Alternative.</p> <p>Drainage problems have been identified and are discussed in Section 3.6 of the SES. The Build Alternative would add new storm drain lines that would improve drainage conditions and reduce flooding at the intersection of 4015 West and 5400 South.</p> <p>Fox Hills Elementary School is located on 6020 South (approximately 0.5 mile south of Point Lane) and would not be impacted by the Build Alternative.</p>
20	Joe Williams	Our current store has access points along the whole south side of our property. My concern is that you will limit access to our store by making one common access point for us, the storage facility, and the apartment complex (to our northeast and east respectfully). Our only parking for handicap customers is on our west side. I need to have enough access points to allow our customers to park in the spaces in the south side of our property- especially for the handicap customers that would be displaced to other pharmacies.	While there is potential for accesses along the corridor to be relocated or consolidated, access to properties will be maintained. UDOT is working with individual property owners to discuss access issues.
21	Cathy Bartling	I live on 4699 W Mildred St. And I am very upset that when this project is complete, our home will be on 5400 a very busy road. It is very noisy. I was happy that we did not live directly on 5400 S and now we will. I think you should offer something- some help for people who do want now have their home against 5400 S. We do not want to live there anymore. Very unhappy.	UDOT acknowledges that noise levels on 5400 South are already high, and future noise levels are generally anticipated to increase between 1 and 6 dBA. As discussed in Section 3.9 of the SES, noise abatement was determined not feasible or reasonable along the corridor, in accordance with UDOT noise policy. UDOT can only offer compensation for acquisition of property necessary to construct the proposed project.
22	Anonymous	Not happy with project. Kicking people out of their homes to screw up 4015 West with no left turns. I don't care how people feel you will do what you want. I have to go out of my way to get to my house but I'm supposed to be happy with this. I really think that UDOT or the county doesn't care how we feel and then we get to pay more taxes (home owner tax) to get screwed.	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
23	Mark Walton	Those of us who live in the subdivision just south of the post office will be nothing but corralled animals because we won't be able to get out of our subdivision especially when the u-turn light is red for those going North. There just has to be a better way than this. I am afraid of accidents, safety of the Jr High children and the wasted gas having to go out of our way to make a left turn.	<p>Comment acknowledged. The proposed project would not affect through-traffic volumes on 4015 West south of Point Lane or north of Sam's Boulevard. The proposed ThrU-Turn intersection is expected to reduce congestion and intersection queuing on both 5400 South and 4015 West since it would provide more green time for vehicles traveling through the intersection. Consequently, access to 4015 West from adjacent sub-divisions may actually improve.</p> <p>The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.</p>

Comment #	Name	Comment	Response
24	Bryce Failner	This is not an option for our area and makes me angry. The u-turns are not okay. I get the expansion, but the u-turns cost far more time and will cause more accidents and maintenance of roads (bi-tuminous surface). We will be using the neighborhood to get places just to get to the post office is 6-7 lights. NOT OKAY! We need other options that we all can be a part of the decisions. I bet not one of you lives in our area but are making the decision for us. That's wrong. Stop what you are doing with left turns now on 4000 and 5400. We don't want u-turns!	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
25	Jared W. Christensen	Well planned and thought out! Thank you! I support this project. Help us get a light on 6200 S and impressions drive about 5450 W! We also need access to our Church house on Parkway Dr. from Vista Ridge Way. Thanks!	Comment acknowledged. Providing additional signals outside the study area's limits does not meet the purpose and need of the proposed project and cannot be incorporated into the Build Alternative.
26	Kelly Record	This will make a bottleneck at Northwest Avenue to under the railroad overpass. Then when we try to make a left hand turn onto 4800 W. We back up now all the way back to North West Ave. This will make for a very bad two intersections.	The Build Alternative includes dual left turn lanes from 5400 South to 4800 West. Traffic modeling shows that these turn lanes accommodate existing and future traffic demand, and both intersections will operate at acceptable levels of service. For additional information regarding traffic operations see Chapter 2 of the SES.
27	Eileen Stevenson	You need a left turn signal light on 5200 going East and a signal on 4620 because of numerous accidents on 4620 and left turn going East. Also light on North West Ave, is too fast for people to cross 5400.	As part of the proposed project, signal timing will be optimized at intersections along 5400 South to enhance corridor operations. Additional signals on 5400 South were not included for the Build Alternative because the un-signalized intersections on 5400 South do not warrant signalization. Providing additional signals outside the study area's limits does not meet the purpose and need of the proposed project and cannot be incorporated into the Build Alternative.
28	Ruby Martinez	Please send hardcopy of Environmental Study and plan to the above address.	Commenter was provided with a hard copy of the SES to the address listed.
29	Garth Shaw	Sound wall ASAP	UDOT acknowledges that noise levels on 5400 South are already high, and future noise levels are generally anticipated to increase between 1 and 6 dBA. As discussed in Section 3.9 of the SES, noise abatement was determined not feasible or reasonable along the corridor, in accordance with UDOT noise policy.
30	Scott Labrum	I like having the study available on the internet in PDF format. I don't want Kearns divided by a busy highway. Highlight safe crossing points.	Comment acknowledged. Existing crosswalks will be maintained or relocated. Crosswalks will be clearly marked in accordance with UDOT standards.
31	Stephanie Bartling	We live in a house 4699 West Mildred and with this widening of the road our house will now be the backyard of 5400 S. We own our home and purposely bough it off 5400 S. Our home will now lose value. We deserve to have some compensation for the loss of value, or at least be offered to relocate. This is very cruel to the home owners that aren't being bought out. Our neighbors are extremely upset about this too. Something must be done for the house that will/ after expansion be bordering 5400 S.	Comment acknowledged. UDOT can only offer compensation for acquisition of property necessary to construct the proposed project.
32	Joyce Paschall	We are very unhappy about all of this. It is ridiculous for anyone who lives in the area affected by this. I am angry and frustrated and will fight this. You are taking away our town. Please don't do this. LEAVE our town ALONE!!!!	Comment acknowledged.
33	Ryan Race	5400 S 4000 W, try to give a green turn light going to go south on 40th. This gives us an option to turn like we did years ago. We never had a problem. Tell the new light. Thanks I sure you will not read this twice.	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
34	Alex Cook	I am concerned with access to Walgreens at 5415 S 4040 W. It will be far too difficult for people coming in from the West on 5400 S. The will have to make 2 turn arounds! We are a high volume pharmacy that services the whole valley. It is vital that our patients be able to get into our lot with ease.	Access to the referenced property will be maintained.

Comment #	Name	Comment	Response
35	Bill Taft	The only concern I have is the people that will have to relocate and 4015 x 5400 will be backed up as far as East to Bangerter and on 4015 to the roundabout to 5400 which will connect with the other backed up at/on 5400th to Bangerter. Put a double left turn lane West bound and single East bound.	Regarding relocations, private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT. Regarding possible congestion resulting from the ThrU-Turn, dual left turn lanes were considered as an alternative to the currently proposed ThrU-Turn intersection, but the ThrU-Turn intersection accommodated the needs of the intersection better than the dual left turn lanes. For additional rationale as to why the ThrU-Turn intersection was selected, see Section 2.5 of the SES.
36	Karen E. Foster	If it is necessary to widen 5400 S road, all I hope is that it is done in a fair, good way, concerning all the people along that road that will be involved. I know many concerns are that our wards in our stake will be affected, which is a big concern. I would hope that possibly a overheard crosswalk would be made for the kids to safely get over to the grade school and the Junior High.	Private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT. Crosswalks for Kearns Junior High School will be re-established, and a designated walking route will be identified to ensure student and pedestrian safety. However, an overhead crossing is not proposed for the Build Alternative.
37	Mick Quigley	LDS Church meetinghouse on 5400 South is significantly impacted. Please provide info on: 1) Sound study impact of noise one chapel location. 2) Slope driveway changes of parking lot greatly impacted. 3) Retaining wall designs along front of property. 4) Cost of cure commitment covering real estate, landscape restoration, restoration management landscape, diminished use value, etc.	Regarding the referenced noise impacts, Section 3.9 of the SES discusses noise levels within the church building. Other details will be available as the project design is finalized. UDOT personnel will meet with the property owner and provide the details requested and complete acquisitions in accordance with the Utah Relocation Assistance Act. .
38	Anonymous	Winter- lack of plowing on 5400 S also 5600 W very dangerous during storms, especially when cold. Trying to get up the hill (5600 W is a hill very steep and slick by light, by newspaper agency). You need to go on the street in rush hour.	Comment acknowledged. For additional information refer to UDOT's snow removal policy located on UDOT's website at the following link: http://www.udot.utah.gov/main/uconowner.qf?n=10458927531084223 . 5400 South is currently classified as a minor arterial (Priority 2) in the policy. The policy assigns a priority based on factors such as available resources, importance to emergency services, importance to school bus routes, and importance to commerce.
39	Doug Kitchens	No left turn at 4015 w is by far the most foolish idea I've ever seen. It will do nothing to improve traffic flow on 4015 West, but will just push traffic into the neighborhoods South of 5400 S. Business for two blocks each direction will be devastated. Increased traffic in front of the Jr High means none of the UDOT hierarchy live in this area.	The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
40	Norman Thomas	1) Survey of our customers shows 75% make a left turn to enter our place of business. Access is diminished by lack of left turns. 2) Semi delivery is eliminated since the semis can't access property due to road way limitations (medians). 3) Time and duration of construction will impact our ability to remain in business (negatively impact). If construction lasts beyond six months, we could lose everything.	Although current traffic patterns around the intersection of 4015 West and 5400 South would change, vehicles would still be able to access businesses by utilizing the ThrU-Turn intersection. The ThrU-Turns have been designed to accommodate semi trucks, and delivery trucks would still be able to access properties in the vicinity of 4015 West and 5400 South. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES. As for construction-related access impacts, UDOT will require the contractor to complete a traffic management plan for construction to minimize disruptions.
41	Anonymous	In 1978 when I bought my home in Taylorsville, I was told 10 years down the road there would be a 2 lane road. That 2 lane road is Bangerter Highway. So I know what I want does not matter, no matter how dangerous or stupid it is. I just hope it doesn't end up being even worse than what you are presenting to us today. Regards, one of the little people.	Comment acknowledged.

Comment #	Name	Comment	Response
42	Shauna Ericson	This is the stupidest idea ever. What, were you drunk? The 4000 idea is going to cause us a lot of big headaches. I don't like the intersections on 5400 South and 4000 West. Why not let people have left turns. I will have to go through four lights to get home. I will be cutting through neighborhoods to get out. If i want to go to the Post Office then go home, I have to go through five lights. Now, I don't have any. I know I am just a little people. You really don't care. I wish you could live out here after you mess up things for one week.	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
43	Shauna Ericson	who thought of the stupid way 4000 w. will be? i can't believe someone would think it would be okay to mess with us the small people. you do a u turn in front of a school. a jr. high school at that. don't you know kids have lost their heads at that age. how many kids will die before you wake up. stupid stupid stupid. then you have the turnabouts. it may work other places but not here. I know none of you live out here it won't affect the way you live. but hello we do. and yes it will be a bad effect it will cost us more money in gas. Having right turns only. people wake up. you try living here. i hope someone will put their act together. use your brains.	Comment acknowledged. Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES.
44	George Bootherson	I am in favor of this project except for the 5400 x 4000 West no left turn design. The placement of islands down 40th will effectively kill the business on all four corners of this street. Kearns has enough problems attracting business without this flawed design.	Although current traffic patterns around the intersection of 4015 West and 5400 South would change, vehicles would still be able to access businesses by utilizing the ThrU-Turn intersection. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.

Comment #	Name	Comment	Response
45	Leif Nelson	<p>I've looked at the proposals. I've read the materials. I've attended the meeting and spoken with representatives from UDOT. Here's my take on the 5400 South widening project</p> <p>I still do not like the U-turn/No left turn design at 5400 South at 4015 West. I think it endangers pedestrians and our children in a big way. I will continue to strongly oppose that part of the design. No one from UDOT could answer basic questions about the design, such as, "Does one of these things operate safely in a school zone anywhere else in the country?" The West Side is tired of being the guinea pig for UDOT's borrowed ideas. This design may be good in certain circumstances, but it is completely inappropriate here. I call on all my elected officials to join me in opposing this part of the plan.</p> <p>That being said, I do agree that something needs to be done with 5400 South. And I mean starting at 3600 West and going west from there. Blighted areas, run-down homes and businesses, lack of proper sidewalks, and other issues make this a necessity. However, UDOT's proposal needs more time to implement. Maybe as much as 10 years. I know UDOT hates to think about such a long-term scenario, but I think the community needs one more chance.</p> <p>One more chance? Yes. One more chance. One more chance to get organized and really take charge of their own destiny. One more chance to build consensus among residents and business owners. One more chance to decide this for themselves. One more chance to come up with a design for the future of the community that everyone can live with. One more chance to show that our community has the pride, spirit, and talent to make this work.</p> <p>You see, I think UDOT is just doing what it thinks is best. While most of the residents don't agree with the proposal, that's really not UDOT's fault. If the community had more vision, they would have rallied their people into a proactive stance to lay out what could be a beautiful, modern community. Instead, its present and past leaders have taken the path of least resistance. The time to take charge of a problem is not after the vacuum that was formed from years of neglect has been filled by someone else.</p> <p>It doesn't matter if you are a township or a city, it matters if you have a sense of vision and a desire to effect real change. The solution may or may not look like UDOT's proposals, but as long as the residents and businesses don't get together and put forth their solution, nothing UDOT proposes will be good enough for anyone. Who will take the lead? Who SHOULD take the lead? No one thought the area of Camp Kearns would be part of the urban sprawl and then have to experience someone else's growing pains, but that time has come</p> <p>The solution starts with a community organization comprised of leaders from Taylorsville, Kearns, Salt Lake County, and UDOT. Decide what you want the WHOLE area to look like in 10 years, not just the road. Do we want better retail areas or empty, decaying buildings? Do we want attractive, well kept neighborhoods, or do we want to continue to allow some residents to continue to grow their annual crop of tumbleweeds? Do we want an area where people from around the region want to come and shop and spend their time, or an area that most people would rather hurry though, hoping their cars don't break down along the side of the road?</p> <p>None of UDOT's proposals will ever be good enough for the residents because it didn't come from the community where it should have originated to begin with.</p> <p>Here's our chance to make this project a community project. Call you elected officials and tell them what you think. Email your friends and neighbors. Get involved now. An old Chinese proverb says, "The best time to plant a tree is 20 years ago. The second best time to plant a tree is today."</p> <p>Now - who will answer the call?</p>	<p>Comment acknowledged.</p> <p>Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES.</p> <p>Furthermore, the proposed project is consistent with Wasatch Front Regional Council's Regional Transportation Plan, 2007-2030 (WFRC 2007) and the Kearns Township General Plan (Kearns 2009). Both of these plans went thought through public and agency review and comment periods.</p>

Comment #	Name	Comment	Response
46	Chad Mullins	<p>With an additional six feet of right-of-way there could be six foot bicycle lanes on each side of the roadway providing a safe means for residents to bicycle to schools, recreational facilities and public transit accessed by 5400 South. Furthermore, the bicycle lanes would provide an important six foot buffer to pedestrians using the sidewalks.</p> <p>Pedestrians, particularly those with mobility problems, are going to have a difficult time with the long street crossings; crosswalks are spaced as far apart as approximately 3/4ths of a mile. The Bangerter Highway crossings are extremely long and need center medians where pedestrians can take refuge if they cannot safely get across on the timed signals.</p> <p>5400 South is a public transit bus corridor with plans for BRT, or bus rapid transit service. Where are the bus pull-outs for bus stops?</p> <p>Our greater Wasatch Front community is going to have to change its travel behavior. Rapidly accelerating increases in oil and gasoline prices are going to hasten that change. Are we going to design our roads in a flexible manner that can accommodate change or ignore the needs of the future?</p>	<p>The Build Alternative would include construction of sidewalks that vary in width from 4 to 10 feet in accordance with Americans with Disabilities Act standards. These wider sidewalks would provide improved facilities for the disabled, transit users, pedestrians, and students. The Build Alternative also includes a 3-foot striped shoulder that would provide a shared roadway for bicyclists and motorists. Both the sidewalks and shoulders would be an improvement over the existing conditions. Pedestrian crossings are provided at signalized intersections along 5400 South. More information on bicyclist and pedestrian considerations is included in Section 3.5 of the SES.</p> <p>The pedestrian crossing at Bangerter Highway is outside of the study area for the proposed project and is, therefore, not included in the Build Alternative.</p> <p>According to a Utah Transportation Authority (UTA) representative, UTA prefers that roads not include bus pullouts, since it is difficult for busses to re-enter the flow of traffic after stopping.</p> <p>Comment regarding future travel behavior is acknowledged.</p>
47	Sherie Brinkerhoff	<p>Congestion around the park east of 4000 west and south of 5400 south. there are always cars parked on 4000 west and the parking lot of Kearns Jr High. Is the county looking at making the parking lot in the park bigger to address the congestion of cars that will no longer be able to park on 4000 west or use the school parking lot because there should not be any pedestrian crossing at this site on 4000 west?</p>	<p>This proposed project does not include plans for additional parking.</p>

Comment #	Name	Comment	Response
48	Ian Reck	<p>I certainly hope the plans you presented at the school are not in stone, so to speak. And I thought it would be more of a meeting where we could actually voice some opinions to your designs, instead of a circular "here is what we're going to do" thing that we can't do anything about. That's what it felt like. People are going to lose their homes, and I have heard more horror stories than positive ones about the government taking someone's home or business at market value, and on top of that, market value rather sucks right now. What I find personally irritating is the design of the turn around. I saw the model of the flow of traffic at the intersection of 5400 South and 4015 West and turning left from the different directions, and you are doubling the travel to simply turn left. I don't know who thought this was a good idea, but it's stupid. Your designer needs to be fired. I already hate your through traffic left turns on Bangerter, have seen at least two accidents because of it, and have almost been in two myself. Thankfully, I haven't been in any thanks to my intuition and observation that other drivers were going to do something against the law and oncoming traffic. Another flawed design. Now you're moving from dangerous to flat out mental irritation and confusion. Anyone who doesn't live around here will have no idea how to get anywhere, and you will be all the more hated. Please stick to traditional intersections. As an added side affect, those who hate the intersection so much, like me, will avoid it and take side roads to avoid it, meaning heavier traffic on smaller streets, and around homes and schools, and children in small areas.And when you react to that like you're reacting to 5400 South, you will end up widening those streets when the problem is what you screwed up first. I will never use your turn around, on purpose, EVER!!! I can totally see the future of our city where if you want to go 1/2 a mile straight down a road, you have to take 49 different turns and travel 30 miles to get to it. Tell me that's a good use of time and resources the world is trying hard to save. I have little problem waiting my turn at the light at 5400 South and 4015 W going South to East without having to go halfway to the next major road before I am entitled to turn left onto the shortest route. Remember. Simple is usually the best answer. Accidents and inconvenience are part of our insatiable demand for cars, and you are just lengthening the amount of time people are in cars to get into accidents. Another side affect. I understand 5400 South needing to be larger due to traffic demand. I feel bad for those affected by the road directly, and hope you do more than fair market value for those who will lose, possibly something they have had for decades. Some of those homes are old, which means some of those people are too. They are very seriously not going to want to cooperate. Have you seen the movie "Up"? I certainly hope the city puts people into their calculations instead of doing what the city thinks it should because they can. That's morally wrong. And yes, there is still such a thing as right and wrong. I was always told that if you look close enough at a gray situation, you will see the black and the white. How white is this situation? I certainly hope this e-mail is read, because if it is not, I hereby enact all the guilt, sorrow, bad feelings, second guessing and bad decisions that will directly affect those making them. I guarantee if you were on the end of the stick those people are on, you would not screw the people over. I expect a reply, or I will get to do this all over again. Choose well. A concerned citizen, Ian</p>	<p>Comment acknowledged.</p> <p>Private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT.</p> <p>Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES.</p>
49	Deb Hudson	<p>Still very concerned about intersection at 4800 West and 5400. 2 left turn lanes turning into 1 lane it is already bottlenecked there and when school is in session or there with a event at the ice oval. I now have a very difficult time getting out of my subdivision on to 5400 So. On the AM traffic west is already backed up due to the high school.</p>	<p>The two left turn lanes from 5400 South will have two receiving lanes to turn into on 4800 West before they merge on 4800 West. Traffic modeling shows that the turn lanes accommodate existing and future traffic demand, and the referenced intersection will operate at an acceptable level of service. For additional information regarding traffic operations see Chapter 2 of the SES.</p>
50	Janyce Middleton	<p>Why no left turn at 4000 W. 5415 So.? Are you really trying to kill Kearns- no access to businesses (blocked median), funny u-turns and one concept - get through Kearns as fast as you can- do not stop- do not live here.</p>	<p>Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.</p>
51	Daryl W. Reeder	<p>Is the 5400/4015 intersection going to have chirpers for visually impaired pedestrian traffic through the intersection?</p>	<p>UDOT contacted the commenter and the Council for the Blind and provided the information necessary to file the official request with UDOT for crosswalk "chirpers". Once UDOT receives the official request, this technology could be installed at intersections along 5400 South.</p>

Comment #	Name	Comment	Response
52	David Young	The no-left-turn intersection @ 54th and 40th leaves few alternatives and I believe it will drive most traffic West of 40th thru the neighborhoods north of 54th with several schools and a library this is a major safety concern.	Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES. Since the ThrU-Turn intersection will function efficiently, traffic is not expected to use other neighborhood streets.
53	Ian Reck	I almost expect this to go in the trash because it looks like you've already decided. This was not a meeting for the public, it's a presentation saying "Too freiken bad!" The widening doesn't immediately affect me, but it affects people I know. But the left-turn turn-around thing is stupid and confusing. You have to travel twice to three times the distant to turn, not to mention confusing the heck out of everyone. The designer needs to be FIRED!!! Very stupid idea.	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
54	Stephen L. Garr	Widening 5400 So form Bangerter to 4800 W. will help some with E/W traffic. But the turnarounds are confusing!! Occasional traffic to the area will be easily test not knowing to go right for a left hand turn. As is, it is only difficult to get access Bangerter. Westbound once across Bangerter traffic is heavy but not inconvenient. I experience no problems west of Bangerter. With turn arounds, I will be waiting at old lights and new. My journey home will include three (3) lights to negotiate instead of one (1). This will probably put me at this intersection (5400 SO 4015 W) 2 to 3 times as long. Add in all the others like me! I think you are trading some inconvenience for some real traffic problems. Please Rethink!	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
55	Anonymous	This is so very wrong-boo on UDOT and ACC The Kearns Representatives.	Comment acknowledged.
56	Ava Cole	Concern about the Median U turn intersection @ Jr High?? Why would you put it there- with students present?? Your study does not show a light @ the intersection of 4420 W and 5400 S.	Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES. Additional signals on 5400 South were not included for the Build Alternative because the un-signalized intersections on 5400 South do not warrant signalization.
57	Kenneth Foster	There is definitely a safety factor for children crossing 5415 7 lanes, having a turn around by the jr High. After taking over the necessary homes, what will become of the extra property. Taking 10 feet from some homes leaves only about 15 feet to peoples front doors. Access to driveway are going to be dangerous to enter or exit. Safety at high school crossing for student also a concern. UDOT needs to reevaluate the situation for the entire project. Turn around could be ok but not in the areas that have been designated. Another safety factor for residences.	Designated crosswalks across 5400 South would not be impacted by the proposed project. Pedestrian safety at the ThrU-Turn is discussed in Section 2.5 of the SES. Regarding the treatment of the remaining portions of the parcels acquired and not used for the road, a detention basin is planned for some of the property north of 5400 South to accommodate stormwater from the road. For the remaining property, UDOT would provide baseline landscape treatments in accordance with the UDOT Aesthetics Policy. Additional aesthetic treatments would not be provided by UDOT. However, UDOT is consulting with Salt Lake County to discuss aesthetics betterments along the corridor. Regarding setbacks, a number of relocations would be required along 5400 South as documented in Section 3.3 of the SES. The remaining residential properties would generally be set back from the roadway similar to existing conditions.
58	Joe Standing	Try timing the traffic lights in. It's terrible on 5400 S, 4700 S and 3900 S clear till the freeway.	As part of the proposed project, signal timing will be optimized at intersections along 5400 South to enhance corridor operations. However, providing signal timing for intersections outside the study area's limits does not meet the purpose and need of the proposed project and cannot be incorporated into the Build Alternative.
59	Rod Young	I say no to the alternative with U turns. Makes no sense to me. Leave the intersection at 5400 and 4015 with left turns allowed. Looking to the seven lanes.	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.

Comment #	Name	Comment	Response
60	Mary Ellen Smith	Snowplowing 5400 S and 5600 W- needs higher priority. This winter my subdivision street would be salted and plowed when I was going to or from work, but neither 5400 S or 5600 W would be. Since both have hills it was very dangerous to drive on. I know how to drive on snow, but always had to plan on an extra hour to get safely down the hill (or up in the evenings). One storm it took over an hour to go 3 blocks. Some people parked and walked. Please plow these streets.	Comment Acknowledged. 5400 South is currently classified as a minor arterial (Priority 2). The UDOT Snow Removal Policy assigns a priority based on factors such as available resources, importance to emergency services, importance to school bus routes, and importance to commerce. It is not within the scope of this study to change the road classification or snow removal priority.
61	Mike Hutchinson	I am concerned about snow removal. Presently pedestrians cannot use the sidewalk because of the snow banks created by snowplows. As a result pedestrians have been walking in the travel lanes. Please provide space for storage of plowing snow. Thanks	The Build Alternative will provide a 3-foot shoulder that would better accommodate snow storage so that snow does no accumulate on sidewalks. Beyond these accommodations, property owners are responsible for snow removal on their property.
62	Holly Sandberg	I am mostly concerned with pedestrians safety at Jr. high and where 5400 crosses under the train tracks. I would specifically like to hear some definite plans on what you are doing to accommodate pedestrian safety for both Kearns Jr. High and Kearns High School.	Sidewalks would still be available under the train tracks, and there would be no adverse impact to pedestrian facilities for Kearns High students. Crosswalks for Kearns Junior High School will be re-established, and a designated walking route will be identified to ensure student safety. Pedestrian safety at the ThrU-Turn is discussed in Section 2.5 of the SES.
63	Garth & Denice Hunt	Not very happy with putting the u turn bulbs in front of the Junior High. Children will be crossing 4 lanes of traffic. It would be nice to have more info on this. Why not keep flex lanes going past Bangerter to help eliminate congestions as before Bangerter. Or make it a one way street with 6200 going opposite direction.	Pedestrian safety at the ThrU-Turn is discussed in Section 2.5 of the SES. Flex lanes were considered for the proposed project, but they were screened out from further consideration because the lanes did not meet the purpose and need for this project. Chapter 2 of the SES provides more information on alternatives considered.
64	Tom Blockovich	I don't think we need to touch 5400 So. West of Bangerter. Kennecott will be mining for 30 years. ATK will be in operational. Nothing will change.	The proposed project has been designed to accommodate traffic demand for the design year 2040. Traffic volumes were projected using the Wasatch Front Regional Council's travel demand model that is based on land use and growth projections that were developed in consultation with local and regional plans. A more detailed discussion of projected future conditions is included in Chapter 1 of the SES.
65	Jon Filder	1) Paying fair market price will not stop complaints. Offer a decent moving stipend. (of course I just that heard that is already part of the package) 2) On the noise survey chart, offer to buy out the green section. Offer a package higher than fair market, then it into commercial property. The higher tax base would more than pay for itself.	Private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT. UDOT can only offer compensation for acquisition of property necessary to construct the proposed project.
66	Laura Mason	Think UDOT is doing a great job. Keep up the good work- AND (!) Good Luck! PS. Keep in mind you'll never make everyone happy but it is what it is.	Comment acknowledged.
67	Anonymous	Obviously, no one on this "planning committee" lives in this area. I don't know where to start. The Junior High is a big deal. The kids are already in enough danger walking to school, and you are going to give them more traffic to deal with. The businesses in the area don't clear the walks of snow, and the kids are forced to walk in the street. Now in MORE traffic. Then a U-turn by the school? Drivers are distracted talking, texting, eating, applying make-up. Now let's add u-turns, lights, and kids. My subdivision will be seriously impacted. Two entrance/exits only both on 4015 W. Morning traffic backs up for blocks to make right turn onto 4015, now let's add a u-turn light to the mix. Back it up farther. Not to mention the 18-wheeler that parks on the east side of the street. Traffic will now be forced to drive through subdivisions to get where they need to be. Again, kids in danger. I'm happy for you that it's not your children or grandchildren in this situation. I wish it was not mine. I wish I could move, but no one wants to buy my home because the noise is already too much. Now let's make that worse, too.	Comment acknowledged. Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES. The proposed ThrU-Turn intersection is expected to reduce congestion and intersection queuing on both 5400 South and 4015 West since it would provide more green time for vehicles traveling through the intersection. Consequently, access to 4015 West from adjacent sub-divisions may actually improve.
68	Beverly Goeller	Please reconsider the left turn idea on 5415 going east west. not a good idea, safe idea. Do not do it.	Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES.

Comment #	Name	Comment	Response
69		NE Corner 4620 W site distance issue between 1st and 2nd house to East of intersection. House and wall impede sight looking east. Karen Poulsen – 54th Storage Culinary & storm 16” asbestos line 6” line South side along Pizza Hut property boundary Principal of Middle school unaware of thru turn being permanent	Comment acknowledged. UDOT has been in coordination with the Granite School District Facilities coordinator and Kearns Junior High Principal. UDOT is working with these individuals to develop a plan to communicate pedestrian safety information to students.
70	Brett Helsten	Utah thru turn at Northwest Ave.	Comment acknowledged. The project team considered a ThrU-Turn intersection at this location, but it was screened out from further considerations due to operational and design concerns.
71	Cynthia Read	The no left turn at 5400 S and 4015 W does not make sense. Please check on leaving the turn there. I am also concerned with the Kearns Jr. High students’ safety, it has brought much difficulty. Are you planning a kiddie walk?	Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES. An overhead crossing is not proposed for the Build Alternative.
72	Ed Failner	Leave the intersection alone. I have children that walk on 4015 to Kearns Jr. The kids are always running across the street in front of the current flow. Now you funnel more cars from 5400 S and add a wall for them to jump. This idea would work if the Jr. High was not here. I know the Bean Counters are thinking of the future, but if one child loses his life because a guy is hurrying to the U turn it makes the project not worth it. If I am coming home and wish to stop at the post office I now will go from waiting for one light to waiting for six lights in order to mail a letter on the way home. I do not approve of spending tax dollars on this project without approval of the people not the big wigs. I drive through this intersection multiple times a day. I would rather leave it how it is now than do this change and I drive it. Our children’s welfare comes ahead of potential traffic problems!	Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES.
73	Sheila Hampton	I come home from work each night on 5400 South to avoid the mess on 6200 South. Now you want to make it more difficult in an already long annoying commute I come home from by the U of U. If I could sell my house I would move EAST!!! I don’t understand why this state does not plan ahead for growth. For every house built west there will be at least two more cars on the roads, and there are never plans to handle the influx of traffic until after the fact. Pull your heads out. This won’t solve the problem.	Comment acknowledged. The proposed project would better accommodate existing and proposed traffic on 5400 South, for more details see Chapter 2. The Wasatch Front Regional Council is the agency responsible for coordinated long-range land use and transportation planning for the Salt Lake Valley. Please reference Wasatch Front Regional Council’s Regional Transportation Plan, 2007-2030, for future proposed projects.
74	Debbie England	Why do you have to mess up the only street in the valley that works well. I can only get to my subdivision from 40th. I should not have to go out of my way to go home, all that will do is make a different street busier and 6200 South is already a cluster. Keep up the good job screwing up things for the general public.	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES. The proposed ThrU-Turn intersection is expected to reduce congestion and intersection queuing on both 5400 South and 4015 West since it would provide more green time for vehicles traveling through the intersection. Consequently, access to 4015 West from adjacent sub-divisions may actually improve.
75	Chester L. Avery	Problem at 5400 South 4800 West (Cougar Lane) 2 left turns into single lane, will cougar be widened and how far south?	The two left turn lanes from 5400 South will have two receiving lanes to turn into on 4800 West before they merge on 4800 West just south of 5400 South. Traffic modeling shows that the turn lanes accommodate existing and future traffic demand, and the referenced intersection will operate at an acceptable level of service. For additional information regarding traffic operations see Chapter 2 of the SES.

Comment #	Name	Comment	Response
76	Anonymous	Why not try to fix 6200 South first? Who didn't think this through	The proposed project is consistent with Wasatch Front Regional Council's Regional Transportation Plan, 2007-2030. Widening of 6200 South is not currently included in the Regional Transportation Plan, which provides the "work plan" for future transportation improvements (WFRC 2007).
77	Anonymous	Was anyone that lives on 4015 W in the planning? NOT. My child gets hit at the U turn I will sue (or anywhere on 4015)!!!	Comment acknowledged. Pedestrian safety and the rationale as to why the ThrU-Turn intersection was selected are discussed in Section 2.5 of the SES.
78	Anonymous	I look forward to less traffic back-up when taking my kids to KHS and for a safer drive on 5400. Right now it seems dangerous with no shoulders. One of my daughters quit driving largely due to this being such a scary road to drive on. I hope the signal on the U turns will be timed to minimize wait time. It would help me if the lights turning right onto Bangerter going Southbound in the early A.M. did not cause me to stop again just a little way down the street for traffic turning left there.	Comment acknowledged. The signals at the u-turn locations are coordinated with the signal at the main intersection, which will work as a system to minimize stops at each intersection. The proposed project will not affect signal timing at Bangerter Highway.
79	Anonymous	Where were our political leaders at this meeting to hear our voice. Shame on them for not being here for their people. Good for Dave Wilde and Charles Henderson.	Comment acknowledged.
80	Tricia Luna	Please preserve as much of our businesses as possible. Don't increase speed limit. 54th is our townships main street. That is part of Kearns' charm. We like being part of small town. America, please accommodate the walking to school needs of kids going to the high school. Please no flex-lanes. Each business is so much a part of our small financial town. Please accommodate their needs and Specially Apothecary West, Holding Oil, Genes, Kearns Auto, etc.	Social and business impacts are discussed in Sections 3.2 and 3.4 of the SES. The speed limit will not be increased as part of the proposed project. There would be no adverse impact to pedestrian facilities for Kearns High Students. Flex lanes are not planned as part of this project.
81	Melvin Higley	My one concern is the left turn idea by Kearns Jr. High. I can foresee problems in this area especially with kids in the area. If this is the plan that is used then I for one would like to see the school moved or come up with another option.	Pedestrian safety at the ThrU-Turn intersection is discussed in Section 2.5 of the SES.
82	Janet Frasier	I have lived here most of my life, raised my kids here, have totally remodeled house from sheet rock, paint, floors, cabinets, countertops, siding, roof, heating, patio, shed. I'm disabled and very little income. I'm waiting for disability and have to change firms to get it. If you take this house it will kill me and will not move until I got another home that is in my name and mine. You can tear down this home with me in it. I have nothing to lose. You are taking what is left of my life.	Comment acknowledged. Private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT.
83	Mike Garvoille	For the traffic signaling I am suggesting that for any and all left hand turn lights it be proposed to have a flashing yellow arrow instead of a red arrow that does not allow for you to turn. There is nothing more frustrating than having to sit at a left lane turn arrow with no on-coming traffic and having to wait and let traffic pile up when you could be turning until your light cycle is over. I think it should be looked at. I noticed one on the intersection of 2200 West and 5400 South. I think it works great and helps keep the flow of traffic moving.	Comment acknowledged. The signal design has not yet been determined.
84	Daniel Koons	I believe with the home gone behind my home will make my backyard a serious safety concern for my 8-year-old grandchild who would like to play in grandpas backyard. No money for the sound and safety walls will stop project until all safety concerns are addressed. This is the least that could be done for driving my property value down. Please give free UTA passes to all and cut pollution and traffic.	Comment acknowledged. Noise abatement was determined not feasible or reasonable along the corridor, in accordance with UDOT noise policy and not because of funding constraints. Other treatments along the corridor, including privacy fencing, would not be provided by UDOT either. However, UDOT is consulting with Salt Lake County to discuss betterments along the corridor. Providing free Utah Transportation Authority transit passes is beyond UDOT's jurisdiction and would not meet the transportation need of the proposed project.

Comment #	Name	Comment	Response
85	Anonymous	Increase traffic on 4015 W to accommodate no left turn lanes. 4015 W is only 2-lane road with turn left lane in the middle. Increasing traffic in this already congested area will eventually cause a proposal to widen 4015 W. Businesses along this road (4015 W) already cars congested in a small area. Taking out the left turn lanes on 4015 W and 5400 S may solve the problem of widening the road further, but it creates a problem of increase traffic in the already congested area.	The proposed project would not affect through-traffic volumes on 4015 West south of Point Lane or north of Sam's Boulevard. The proposed ThrU-Turn intersection is expected to reduce congestion and intersection queuing on both 5400 South and 4015 West since it would provide more green time for vehicles traveling through the intersection. Additional rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
86	J Paetsch	Although it would be a sacrifice while construction was in process the end product would be extremely convenient and worthwhile. I think it's a great idea. Anything to improve our side streets for the future is great. I'm glad to see our tax money working for us. You've got my vote.	Comment acknowledged.
87	Harmonie Race	My only suggestion would be to re do the Drainage problem for the intersection of 5400 south and 4015 west. It is a lake ANY TIME WE GET RAIN. SERIOUS traffic hazard.	Drainage problems have been identified and are discussed in Section 3.6 of the SES. The Build Alternative would add new storm drain lines that would improve drainage conditions and reduce flooding at the intersection of 4015 West and 5400 South.
88	Doral Vance	I am against this project as designed. It has a negative impact on local businesses, residences and churches. Also it takes out trees West of the bridge which the Kearns community council through volunteer labor planted and took care of. Do not impact this source of community pride. The project to be valuable should do 3 things: 1. Make homeowners, businesses and churches completely whole. That in much more than fair market value in this market. 2. Bring businesses and people to Kearns. 3. Beautify the Kearns community, not just the road through it. Thank you.	Comment acknowledged. Impacts of the proposed project on businesses, residences, and churches are discussed in Sections 3.2, 3.3, and 3.4 of the SES. UDOT would compensate the property owner for the trees as part of the acquisition process. Private property acquisitions, both partial and full, will be completed according to Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT. UDOT is consulting with Salt Lake County to discuss aesthetic betterments along the corridor.
89	Bryce Stanley	In the first meeting we were told there would be a sound wall installed around our property at 5436 S 4320 W. When the representatives were walking around and talking with the first 2 rows of residents, we are now told that the sound study did not meet the UDOT standards for a sound wall to be installed. Our home already shakes anytime a large vehicle or semi drives past. On our portion of the block, there stands 3 homes, where on every other block there are only 2, making our property cut in half by the 2 rows of residents. As our home was built in the 1950's, the materials it is constructed from will not withstand the traffic being so close to the property, let alone the construction it takes to expand the road. It will start to crack and settle at a much quicker rate than it should. Our property value will completely tank, which we will have no compensation for, and with the market already at all time lows, we will never be able to recover from the loss. We have 2 young children, and do not want to have any problems with accidents on the road coming through our fence and possibly injuring one of them while playing in the yard or even reaching the home and damaging it as there will be no sound barrier or other type of wall to help protect us. It would make more sense to take our property and try to sell the difference back to the one property owner rather than try to sell extra property to 15+ property owners. Keeping our property would move the UTA bus stop to right outside our fence, and we would not appreciate having the garbage that people are too lazy to take to a trash, possibly even discarded drug paraphernalia and/or needles thrown into our yard for our children and dogs to get into.	As discussed in Section 3.9 of the SES, noise abatement was determined not feasible or reasonable along the corridor, in accordance with UDOT noise policy. UDOT can only offer compensation for acquisition of property necessary to construct the proposed project. Other treatments along the corridor, including privacy fencing, would not be provided by UDOT either. However, UDOT is consulting with Salt Lake County to discuss betterments along the corridor. Regarding the comment related to construction impacts, it is standard practice for UDOT's contractor to photo document all residences adjacent to construction projects to ensure there is no damage from construction. Vibration from operation of the roadway would not affect the structure stability of any adjacent homes.
90	Reuben Smallcanyon	Why did you left worked on stuff project 5400 south on side of the freeway road. It be rusted by 2012. Your are all people couldn't keep up trash on 5400 south. Hire me and the free for hire to take care of slc county or talorsville city organizer TCO. What lazy a county worker seated on their white truck. I got picture sleeping in parks.	Comment acknowledged.
91	Launie Wilson	JUST HURRAY UP AND GET IT DONE. AND STOP WASTING MY TAXS DOLLERS PLEASE	Comment acknowledged.

Comment #	Name	Comment	Response
92	Diamond Rental	Several people from Diamond Rental attended the property acquisition workshop. They said the design should coordinate on the landscape, wall and sign. They have some ideas on what they would like to do. UDOT should work with them. Sign costs \$3,400/year. Father is Dan Lujan, and son is John.	UDOT will coordinate property acquisition and sign relocation with individual property owners as necessary. Private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT.
93	Ron Giles	I am worried about not having any bike lanes as they have taken that away from us on 5400 south. We now have all of us riding in the far right traffic lane which slows cars down big time and defeats the extra lane to speed traffic flow. We would like to see bicycle lanes planned as well.	The Build Alternative also includes a 3-foot striped shoulder that would provide a shared roadway for bicyclists and motorists, which would be a considerable improvement over the existing conditions. More information on bicyclist considerations is included in Section 3.5 of the SES.
94	Wanda Norman	I think this is stupid and selfish to the community, you'll be tearing buildings down that have been there for years, and putting people out of business. I do not think it's a good idea to do this to many businesses will be shut down and hundreds maybe more will be out of jobs and some in homes... think about what you'll be doing to families all through the area of Kearns and Taylorsville...	Comment acknowledged. Impacts of the proposed project on businesses and residences are discussed in Sections 3.2, 3.3, and 3.4 of the SES.
95	Debra Birch	Until you relieve the problem with the left turning lane at Cougar lane, this whole project won't help with the traffic. that is where the bottle neck is, and will remain so until this is addressed	Two left turn lanes from westbound 5400 South onto Cougar Lane southbound will be provided under the Build Alternative. Traffic modeling shows that these turn lanes accommodate existing and future traffic demand, and the intersection will operate at an acceptable level of service. For additional information regarding traffic operations see Chapter 2 of the SES.
96	G. Allen Stebbins	I'm against widening 5400 s from Bangerter going west. A better solution would be to continue the plans of 30 years ago and continue 7200 west south bound , also do something with 8400 west , Known as the Bacchus Highway and let commuters come back into Kearns rather than commute thru Kearns. You people at UDOT ought to require that highway engineers graduate from the sixth grade before you hire them. It doesn't take to many smarts to know what's needed in the way of streets and highways when you live in and area.	Wasatch Front Regional Council's Regional Transportation Plan, 2007-2030, includes a comprehensive plan for improvements to the transportation network to accommodate projected population growth within the Salt Lake Valley (WFRC 2007). The proposed project is part of the Regional Transportation Plan, and other planned improvements adjacent to the study area are shown on Figure 1-4 of the SES.
97	Chester Avery	This is only a suggestion to the proposed widening of 5400 south. Let's seriously consider 4700 south. There would be less damage to existing homes, less cost to moving power lines, less time to do the construction. As this would tie into 5600 west and the future construction of the west side which is growing both the residential and business aspects of our area.	Wasatch Front Regional Council's Regional Transportation Plan, 2007-2030, includes plans to widen 4700 South. 4700 South was considered as an alternative for the proposed project as discussed in Chapter 2 of the SES. However, even with the widening of 4700 South, 5400 South would still be congested to the extent that roadway widening would still be needed.

Comment #	Name	Comment	Response
98	Doral Vance	<p>I have serious concerns about your proposed project. I am a 30 year resident of Kearns. I travel 5400 S daily at peak traffic times. I am against your use of eminent domain. Homes are more important than roads. But it seems you have settled on that avenue.</p> <p>As I have contemplated this project, I have determined that UDOT needs to be able to answer the following three questions.</p> <p>1) How will you ensure that displaced homeowners and businesses and other impacted properties are made completely whole? Fair market value is not fair in this economy. In addition, you have elderly families who have made this their home for fifty years.</p> <p>2) How will you bring businesses and residents to Kearns? A project of this magnitude should improve the community of Kearns. Kearns is in need of new, young families. Kearns needs a viable business community.</p> <p>3) How will you beautify and enhance the immediate project area rather than just making it a corridor to get people through? Some suggestions if you will. Attractive lighting standards (See 10600 South), wide sidewalks and attractive landscaping (see 10600 South), a bike lane (The current road is not safe for bicycle traffic. Bicycles are a healthy, needed mode of recreation and transportation in this era of too many video games and expensive gasoline.)</p> <p>Some additional concerns:</p> <p>The road will come uncomfortably close to the LDS Stake Center building at 4575 West. The building is heavily used six days a week and as you pointed out in your study will suffer noise impacts. What is your solution?</p> <p>Before the Olympics, volunteers in Kearns came together and planted trees and bushes at the intersection of Cougar Lane and 5400 S from west of the bridge. I hope your project will not impact those trees. The sprinklers, trees and rocks were all put in by volunteers. It is a source of Kearns pride. Representative Hutchings chaired that committee.</p> <p>The monument on the corner of 5400 and 4000 is historic. It was one of the first monuments in the country to honor Vietnam veterans and honors the legacy of the soldiers who passed through Camp Kearns during WWII. How will you preserve and protect it and the beautiful pine tree (donated by the Kearns Oquirrh Park Fitness Center), that we planted near it.</p>	<p>Private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT.</p> <p>For businesses not relocated by the proposed project, UDOT has developed tools and resources to help business owners maintain their businesses throughout construction. The Partners for the Road Ahead guide is available on UDOT's website at www.udot.utah.gov and is located under the <i>Doing Business</i> link and then the <i>Business Guide</i> link.</p> <p>UDOT would provide baseline landscape treatments in accordance with the UDOT Aesthetics Policy. Additional aesthetic treatments would not be provided by UDOT. However, UDOT is consulting with Salt Lake County to discuss aesthetics betterments along the corridor.</p> <p>UDOT considered the interior noise levels for the referenced property as documented in Section 3.9 of the SES. Applying the methodology for determining interior noise level impacts outlined in the Federal Highway Administration's Highway Traffic Noise Analysis and Abatement Policy, the interior noise level within the referenced property is anticipated to be 44 dBA. Since the threshold for considering noise abatement is 51 dBA, mitigation was not considered for this property.</p> <p>UDOT would compensate the property owner for the trees as part of the acquisition process.</p> <p>The Veteran's Memorial on the corner of 4015 West and 5400 South does not meet the requirements to be considered a historic resource. However, the Memorial will be relocated in accordance with the mitigation defined in Section 3.2 of the SES. The memorial is not specifically associated with the land that it currently occupies, and a new location for the memorial will be determined. UDOT will coordinate with Kearns Township Community Council, Salt Lake County, and other interested parties regarding the Memorial's relocation.</p>
99	Carolyn Palfreyman	<p>5400 South is the main street of our city it needs to have better sidewalks and bike lanes. I do not agree with widening it as it is our main street and not a 60 MPH road. Widening it will also take out businesses that are vital to our community. Adding or widening streets is just adding to the pollution problems in the valley. What is a little inconvenience for drivers to slow down to keep our community intact.</p>	<p>The Build Alternative would include construction of sidewalks that vary in width from 4 to 10 feet in accordance with Americans with Disabilities Act standards. The Build Alternative also includes a 3-foot striped shoulder that would provide a shared roadway for bicyclists and motorists. Both the sidewalks and shoulders would be an improvement over the existing conditions. More information on bicyclist and pedestrian considerations is included in Section 3.5 of the SES. The economic impact of business relocations is discussed in Section 3.4 of the SES.</p> <p>The speed limit will not be increased as part of the proposed project.</p>
100	William Jensen	<p>Bicycle lanes on 5400 South are unnecessary — I say this as an avid cyclist. There is adequate room for bikes under the railroad overpass, if you don't mess that up. From there to 4000 West, 5500 South is a perfect alternative, if cyclists are aware it exists. (Would it kill Salt Lake County to create bike lanes?)</p>	<p>Comment acknowledged. However, it should be noted that the Build Alternative includes a 3-foot striped shoulder that would provide a shared roadway for bicyclists and motorists. More information on bicyclist and pedestrian considerations is included in Section 3.5 of the SES.</p>

Comment #	Name	Comment	Response
101	Doral Vance	<p>I am a resident of Kearns. I am strongly opposed to your plan to relocate upwards of 30 residences. My church is also along that corridor. You have original, elderly homeowners there. How will they start over someplace else? Giving them fair market value in this market would not come close to "mitigating" their situation.</p> <p>I believe that homes are more important than a wider road. I drive 5400 South to and from work each day and the traffic is manageable.</p> <p>Also, you improved the intersection at Northwest and 5400 South and 4800 and 5400 in 2001. Seems like a bit too soon to tear up those intersections again. The community planted numerous trees and plants west of the bridge. Will those be saved?</p> <p>Finally, I object to moving the war memorial at 4000 and 5400. That was one of the first monuments in the country to honor our Vietnam vets.</p>	<p>Comment acknowledged. Private property acquisitions, both partial and full, will be completed in accordance with the Utah Relocation Assistance Act, which provides fair and equitable treatment of persons displaced by the acquisition of real property by UDOT.</p> <p>Improvements are needed at the intersection of 4800 West and 5400 South to increase intersection capacity.</p> <p>UDOT would compensate the property owner for the trees as part of the acquisition process.</p> <p>The Veteran's Memorial on the corner of 4015 West and 5400 South does not meet the requirements to be considered a historic resource. However, the Memorial will be relocated in accordance with the mitigation defined in Section 3.2 of the SES. The memorial is not specifically associated with the land that it currently occupies, and a new location for the memorial will be determined. UDOT will coordinate with Kearns Township Community Council, Salt Lake County, and other interested parties regarding the Memorial's relocation.</p>
102	Rachel Whitney	I use an electric wheelchair for mobility, and I would like to see 5400 S. more accessible and safer for the disabled community.	The Build Alternative would include construction of sidewalks that vary in width from 4 to 10 feet in accordance with Americans with Disabilities Act standards. These wider sidewalks would provide improved facilities for the disabled, transit users, pedestrians, and students.
103	Robert Ulch	Green light turn signal at 3200 south (not the lame blinking yellow). That intersection is too busy and the flashing yellow will cause accidents.	Providing signalization modifications at 3200 South is outside the study area's limits, does not meet the purpose and need of the proposed project, and, therefore, cannot be incorporated into this proposed project or the Build Alternative.
104	Ted Makris	How much wider at 4655 West 5400 South. on the south side of street, will it take the pizza hut out?	The cross section of the Build Alternative would be approximately 100 feet wide. Partial property acquisition of the referenced property and other businesses in that immediate area would be required as shown in Section 3.3 of the SES. However, the businesses would not need to be relocated.
105	Gordon Mishler	How will this affect the use of 5400 south while construction is going on?	During construction, at least one lane in each direction will be open for travel. Side streets and private driveways may be closed briefly, but alternate access and detours will be provided. As for construction-related access impacts, UDOT will require the contractor to complete a traffic management plan for construction to minimize disruptions.
106	Cheri Guertler	I believe the concrete median barrier from Bangerter to the carwash on 5400 south is about 500'. Couldn't it be shortened a bit, maybe to 350' or so. NO one can get to the businesses there going WB. You have to drive past Bangerter, turn around at the Arctic Circle area and head EB up 5400 S. Not worth it. However, as I was sitting at the Arbys drive-up window, I saw three U-turns around the curb, one going WB in the EB lanes, turn in the "out" at Arbys, and and one person stopped completely to wait for EB traffic to go into the carwash. Does the island have to be all that long? Really?	The Build Alternative would provide a new signal at approximately 3900 West (just west of the referenced area) that would provide additional accessibility to the commercial area to the south of 5400 South.
107	Anonymous	When are you going to solve the real problem of flooding at the 5400 South and 4015 west intersection? All you have to do is install additional storm drains South and west of the intersection. Are you aware there are no storm drains in the entire Subdivision South and West of this very critical intersection?	Drainage problems have been identified and are discussed in Section 3.6 of the SES. The Build Alternative would add new storm drain lines that would improve drainage conditions and reduce flooding at the intersection of 4015 West and 5400 South.
108	Troy Murdock	My home is one of the homes being tore down and an appraisal has been done and I was told that an offer will come about 3 weeks after and if I accept that offer how long after that will the home close.	A UDOT right-of-way agent has been assigned to each affected property owner and will be in contact as soon as possible.

Comment #	Name	Comment	Response
109	R.K.Murdock	We will lose a lot of tax money with the proposed widening of 54th. The business' there are part of the neighborhood and will never be replaced costing "us" the tax payers more again looking for those services. Progress must go on but at what cost? Where is the balance?	The Build Alternative would not substantially affect the Kearns Township tax base or affect the feasibility of Kearns Township incorporation in the future. Section 3.4 of the SES provides more information on the economic impact of business relocations.
110	Kris Farnsworth	<p>I was at the meeting last night at the Olympic Oval, we were told of the time line for the appraisal on the homes was to start June 1st. I wanted to see if there was anyway to get an appraisal earlier. When the UDOT people came to our home, we mentioned if there was some leeway in the planned timeline. She told us that UDOT were looking for people that wanted to "move forward" and she said she would note that on our paper she brought to our home for our visit, so that they may assign a Acquisition agent sooner, and start the process sooner.</p> <p>We are concerned with the time line. I work for a school program and I have a child in elementary. We may need to move ahead with this process sooner for the following reasons:</p> <ul style="list-style-type: none"> - I may find a school near my home so that I can be near to my home and be able to be there for my child. -My child will be able to start school where we are moving so we may register him and he won't have to transfer after the school year has started. We are looking for a home, at this time. What I wanted to find out is that if we find a home we can afford, would be able to bid on that home, if it happens to be before the scheduled June appraisals and the July Acquisitions? <p>Thanks for your time on this matter.</p>	A UDOT right-of-way agent has been assigned to each affected property owner and will be in contact as soon as possible.
111	Jeffrey Johnson	I have lived in this area for 21years, I voted against Taylorsville becoming a city, and I don't think you should mess up 5400south any more than you have already. By widening this street it will put more traffic in this area and make things more dangerous for our children and pets.	Comment acknowledged.
112	Carolyn Eyre	Does this mean we get a light at 4620 West? What happens to the fire station?	<p>An additional signal on 5400 South at 4620 West is not included for the Build Alternative because the un-signalized intersection does not warrant signalization.</p> <p>The proposed project would not require the relocation of the fire station.</p>
113	Leif Nelson	I will be at the public input meeting. UDOT has had some great plans and projects, but this is definitely not one of them. No left turns at 4015 West is not an option.	Comment acknowledged. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
114	Doug Kitchens	not having left turn lanes at 4015 w is the most stupid idea I've ever seen. i for one will just go a block or two further west and turn left putting more traffic into the neighborhoods	Comment acknowledged. Since the ThrU-Turn intersection will function efficiently, traffic is not expected to use other neighborhood streets. The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.
115	Jerry & Heidi Jones	So far it looks good. I am sure the cost of acquiring both sides of 5400 would be expensive but worth the investment to the area. We NEED a East/West corridor.	Comment acknowledged. The proposed project meets travel demand for the design year 2040, as discussed in Chapter 2.
116	Bill Smith	I think this new idea is A great way to help with our traffic problems. 4270 west will play hell getting across 5400. I hope you do something to help us get to the west side of 5400.at least the curb and gutters will finally be fixed. THANKS for everything	Comment acknowledged. An additional signal on 5400 South at 4270 West is not included for the Build Alternative because the un-signalized intersection does not warrant signalization.

Comment #	Name	Comment	Response
117	Phil Peterson	<p>looking at the plan I see two issues. I use 5400 S as part of my commute. The biggest issue I see is traffic heading west on 5400 S trying to turn south on 4800W, compounded by traffic heading south on Northwest Ave that has to turn on to 5400 S and get over to go south on 4800W. They block the left lane and sometimes both lanes as they try to continue south.</p> <p>The median U turn idea seems like more trouble than help. You have to turn one way to go the other? People are still going to try and turn left at the intersection and now you add congestion for those who want to turn right off of 5400. They now are mixed with a bunch of traffic that wants to go the other direction. The Flex lanes are going to be enough trouble. I predict lots of head on accidents. I still see people turn into the wrong lane when getting on Bangerter.</p>	<p>The Build Alternative includes dual left turn lanes from 5400 South to 4800 West. Traffic modeling shows that these turn lanes accommodate existing and future traffic demand.</p> <p>The rationale as to why the ThrU-Turn intersection was selected is discussed in Section 2.5 of the SES.</p>
118	Kurt D Nixon	That's great! The sooner the better.	Comment acknowledged.
119	Breanne Haws	I am greatly relieved that some of the transportation issues in the Kearns area are finally being addressed. Since USANA was built, it is almost impossible for me to get home because of the poorly planned roads on 6200 S., 5400 S., and 4700 S.	Comment acknowledged.
120	Steve Malachowski	The plan to widen 5400 South as shown in the draft is a great idea. Our concerns are more with the 4015 W. I have no issues with the proposed U-turn intersections, I reside in the subdivision Southeast of 4015 W.,5400 S. and enter at Dimrall St.(u-turn location). That is a good idea as well considering a lot of motorists do make u-turns at that intersection, not to mention the fact that, it is just about impossible to make a left turn into traffic onto 4015 W. in peak traffic hours safely. My concerns are the mouths of 4015 at 5400 S. I see the frustration of drivers turning right on to 5400 S. every morning at both sides of the intersection. When school is in session, it can back up South to North past South Ridge Park, and North to South to Rivendale or further between 7 am. to 8:30 am. Perhaps widening the mouths of 4015 W at 5400 S. should be surveyed as well.	New right turn lanes would be provided on 4015 West at the intersection of 5400 South that should accommodate the congestion described by the commenter.
121	Bennion Gardner	I grew up in Taylorsville and my parents still live just off 5400 South and 2700 west. I live in Magna now, but travel 5400 South a few times a week still. I also enjoy riding a bicycle to get to work, or visit family, or just for recreation. It has been ten years since I have dared to ride my bike on 5400 South, It is one of the most dangerous roads in the valley for a cyclist, because there is no shoulder or bike lanes. I read in the paper that there is a widening project under way for the section of 5400 in Kearns. I looked into the design plans and was very disappointed to see there is still little to no consideration to bicycle commuters. I know 5400 South is heavily used by vehicles, and we need to accommodate for that, but the biggest problem is that there is no safe way for cyclists to go east to west on the west side of Salt Lake County. There is not one road that has bike lanes going east to west, there is not even one road that has adequate shoulder. When I travel by bike out of Magna I take 2700 South or 3100 South, because they have the lowest traffic volumes, but there are no bike lanes and major stretches without a shoulder. If we are going to be spending millions of dollars and relocating homeowners, lets do it right the first time and set the example for future road projects. Please make considerations for cyclists in the 5400 South project. If it costs a little more now, it is worth it in the long run. There are no options for cyclists on the West-side. This project can create a solution. Please add bike lanes to the plan for the 5400 South project.	Comment acknowledged. While currently there is not a designated lane for bicyclists included as part of the proposed project, the Build Alternative includes a 3-foot wide striped shoulder that would provide a shared roadway for bicyclists and motorists, which is an improvement over the existing conditions. More information on bicyclist and pedestrian considerations is included in Section 3.5 of the SES.
122	Joe Singh	<p>After attending the Property Acquisition Hearing at the Oval and meeting with Brandon (Engineer/Designer) and Julie, my biggest concern is a possible 'median' or a 'no left turn' implemented in the Final Design. If implemented, it will force me to close my business as 40-50% of my business traffic makes a left turn to enter the 7-11 store.</p> <p>A median put in place on 12600 S. and Redwood road about 3 years ago had a similar impact on a 7-11 store I used to own and I had no choice left but to opt out of my contract due to losses caused by a median constructed after UDOT widened 12600 South/Redowood.</p>	No median or turning restrictions are proposed in front of the referenced business.

Comment #	Name	Comment	Response
123	Tracy Tyler	My concern is the two intersections on 5400 South that are on either side of the train bridge. traffic always backs up in this spot due to so many people turning left onto 4800 South. The backup hampers traffic at the intersection before that and continues down the street, during rush hour. Is there a plan in place to alter this spot so flow is better?	The Build Alternative includes dual left turn lanes from 5400 South to 4800 West. Traffic modeling shows that these turn lanes accommodate existing and future traffic demand.
124	Robert Race	<p>Please install a high concrete island along 4000 West so vehicles travelling southbound cannot cross the double yellow line trying to turn into the parking lot of the church, Mexican bakery, lawnmower shop or dry cleaners..the vehicles pull head-on into the left turning lane for vehicles wishing to turn left to go west bound from 40th west.</p> <p>Please also bring the white lane markings all the way to the crosswalks so when vehicles are turning left they stay in there own lane and don't cross over into the lane vehicles are using to turn right.</p>	<p>Medians would be included as part of the ThrU-Turn intersection in the area described by the commenter.</p> <p>Crosswalks will be clearly marked in accordance with UDOT standards.</p>

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APPENDIX A

AGENCY CONSULTATION



Memorandum



To: Rick Black, Environmental Division Manager
Jacobs Engineering Group

From: Paul W. West, Wildlife/Wetlands Biologist
UDOT, Environmental Services

Date: February 8, 2011

Re: S-0173(16)5 – 5400 South Improvement Project, Salt Lake County, PIN (8523)

CC: Brandon Weston– UDOT, Environmental Services
Rebecka Stromness – UDOT, Region 2
Mark Farmer – UDWR, Central Region
Doug Sakaguchi – UDWR, Central Region
File

I understand that the Utah Department of Transportation (UDOT) is proposing to widen approximately 1.3 miles of 5400 South (SR-173) to seven lanes (approximately 135 feet) between Cougar Lane (4800 West) and Bangerter Highway in Salt Lake County, Utah (see location map). All of the proposed improvements would occur within Kearns and the City of Taylorsville.

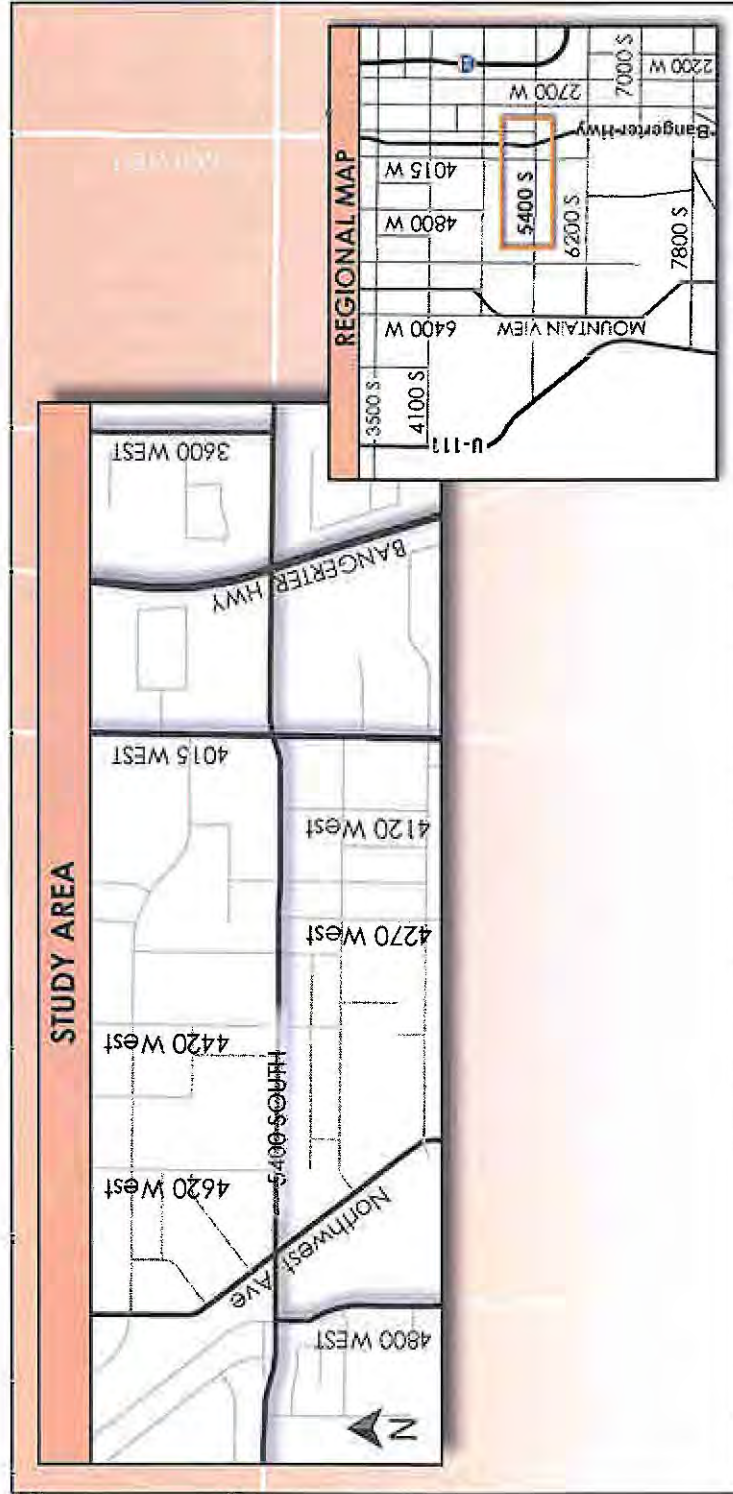
A review of the Utah Division of Wildlife Resources, Natural Heritage (UDWR/NHP) database, indicates that no federally listed threatened, endangered, or candidate species or any critical habitat would be affected. Therefore, no further Section 7 Consultation should be required.

In accordance with the U.S. Fish and Wildlife Service memo dated January 27, 2006, we do not require concurrence letters from them for “no-effect” determinations. Therefore, this memo is issued in lieu of their concurrence for your environmental documentation.

In addition, I have evaluated the above-referenced project with regard to wildlife issues as required on the UDOT Environmental Study Form. Based on the UDWR/NHP database, UDOT’s Traffic and Safety data (2003 – 2005), and UDOT’s Wildlife Connectivity database (2006), it is my opinion that this project would have no effect to any state-sensitive species, important wildlife habitat, big game migration routes, habitat connectivity, migratory birds, or to fish passage.

If you have any questions, please call me at (801) 633-8747, or email at paulwest@utah.gov

Figure 1. 5400 South Improvement Project, State Environmental Study
Study Area and Project Location Map.





State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Utah Geological Survey

RICHARD G. ALLIS
State Geologist/Division Director

February 15, 2011

Garrett Webb
Logan Simpson Design Inc.
8 East Broadway, Suite 300
Salt Lake City UT 84111

RE: Paleontological File Search and Recommendations for UDOT between 4000 West and 4800 West on 5400 South, Salt Lake County, Utah
U.C.A. 79-3-508 (Paleontological) Compliance; Request for Confirmation of Literature Search.

Dear Garrett:

I have conducted a paleontological file search for the 5400 South Project in response to your letter of February 15, 2011. This project qualifies for treatment under the UDOT/UGS executed Memorandum of Understanding.

There are no paleontological localities recorded in our files for this project area. Quaternary and Recent alluvial deposits that are exposed along this project right-of-way have a low potential for yielding significant fossil localities (PFYC 1-2). However, nearby gravel pits consisting of Lake Bonneville sand and gravel deposits have yielded Pleistocene vertebrate fossils, so please be aware of possible impacts to paleontological resources if these deposits are disturbed as a result of construction activities. Otherwise, unless fossils are discovered as a result of construction activities, this project should have no impact on paleontological resources.

If you have any questions, please call me at (801) 537-3311.

Sincerely,

Martha Hayden
Paleontological Assistant





*Utah Department of Transportation
Region 2 Environmental*

Ms. Gwen Davis, Chairwoman
Northwestern Band of the Shoshone Nation
707 North Main Street
Brigham City, UT 84302

Subject: Project No. S-0173(16)5
SR-173, 5400 South Bangerter Highway to 4800 West. UDOT PIN 8523
Invitation to be a Consulting Party

Dear Ms. Davis:

The Utah Department of Transportation (UDOT) is conducting a study to improve 5400 South (also State Road 173) between Bangerter Highway and 4800 West in Kearns Township, Salt Lake County, Utah. Widening and other improvements will occur along a 2.06 km (1.28 miles) long area extending between Bangerter Highway and 4800 West (Please see attached map). The project will include the acquisition of new right-of-way to the north and south of 5400 South.

UDOT requests that you review this information to determine if there are any historic properties of traditional religious and/or cultural importance that may be affected by this undertaking. If your organization is aware of any historic properties that may be impacted by the proposed project, we request your notification as such and your participation as a consulting party during the development of the environmental document. A cultural resources investigation is currently being conducted in the Area of Potential Effects (APE). One unrecorded segment of a historic railroad (the Denver & Rio Grande Western Railroad) extends across the project area near 4800 West.

Please be assured that we will maintain strict confidentiality about certain types of information regarding traditional religious and/or cultural historic properties that might be affected by this proposed undertaking. We would also appreciate any suggestions you might have about any other groups or individuals that we should contact regarding this project.

A response within 30 days would be appreciated, should you have concerns about this project and/or wish to be a consulting party. Please feel free to contact me at 801-887-3410 or at psteele@utah.gov to answer any questions or provide any additional information.

Thank you for your attention to this project notification and any comments you may have.

Sincerely yours,

Peter Steele
UDOT Region 2 NEPA/NHPA Specialist

Enclosure(s): Project Location Map

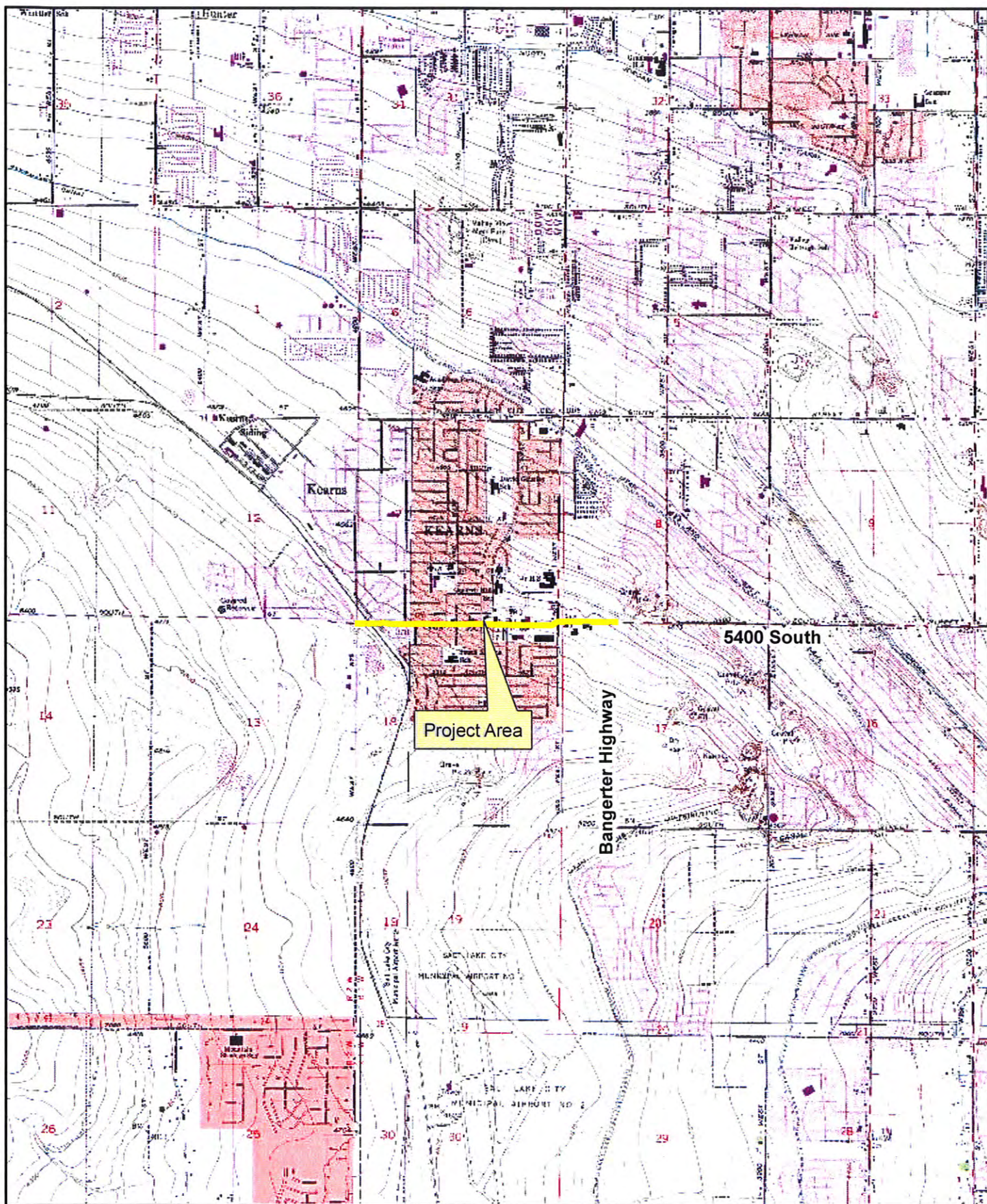
cc: Ms. Patti Timbimboo-Madsen, Cultural Resources Specialist

IDENTICAL COPIES OF THIS LETTER SENT TO THE FOLLOWING:

Tribal Contacts List For:

File: S-0173(16)5
 Project Description: SR-173, 5400 South Bangerter Highway to 4800 West. UDOT PIN 8523.

Original to:	CC to:
Mr. Alonzo Coby, Chair Shoshone-Bannock Tribes P.O. Box 306 Pima Drive Fort Hall, ID 83203	Ms. Carolyn Smith, Cultural Resources Coordinator Shoshone-Bannock Tribes P.O. Box 306 Pima Drive Fort Hall, ID 83203
Ms. Gwen Davis, Chairwoman Northwestern Band of the Shoshone Nation 707 North Main Street Brigham City, UT 84302	Ms. Patti Timbimboo-Madsen, Cultural Resources Specialist Northwestern Band of the Shoshone Nation 707 North Main Street Brigham City, UT 84302
Mr. Ivan Posey, Chairman Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Road Fort Washakie, WY 82514	Ms. Glenda Trosper Director, Cultural Center Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Road Fort Washakie, WY 82514
	Mr. Wilfred Ferris, THPO Eastern Shoshone Tribe of the Wind River Reservation P.O. Box 538/15 North Fork Road Fort Washakie, WY 82514
Ms. Lora Skiby, Chairperson Skull Valley Band of Goshute Indians P.O. Box 448 Grantsville, UT 84029	
Mr. Curtis Cesspooch, Chairperson Uintah and Ouray Ute Indian Reservation P.O. Box 190 Fort Duchesne, UT 84062	Ms. Betsy Chapoose, Director, Cultural Rights & Protection Uintah and Ouray Ute Indian Reservation P.O. Box 190 Fort Duchesne, UT 84062
Ms. Lora E. Tom, Chairwoman Cedar Band of the Paiutes 4655 North Utah Trail Enoch, UT 84720	Ms. Eleanor Tom Cultural Resource Representative Cedar Band of the Paiutes 4562 Wagonwheel Drive Cedar City, UT 84721
Mr. Amos Murphy, Vice Chairperson and Acting Chair Confederated Tribes of Goshute P.O. Box 6104/195 Tribal Center Road Ibapah, UT 84034-6104	Mr. Ed Naranjo, Tribal Administrator Confederated Tribes of Goshute P.O. Box 6104/195 Tribal Center Road Ibapah, UT 84034-6104



UDOT Project S-0173(16)5

SR-173, 5400 South; Bangerter Highway to 4800 West

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State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

JOHN R. NJORD, P.E.
Executive Director

CARLOS M. BRACERAS, P.E.
Deputy Director

March 17, 2011

Mayor Russ Wall
2600 W. Taylorsville Blvd
Taylorsville, UT 84118

RE: UDOT Project No. S-0173(16)5: 5400 South; Bangerter to 4800 West Project.
Request to be a Consulting Party.

Dear Mayor Wall,

The Utah Department of Transportation (UDOT) is proposing to widen SR-173 (5400 South) to a seven lane cross-section between Bangerter Highway and 4800 West. Work will also include intersection improvements, particularly at 4015 West, and may include a new intersection at approximately 3900 West. A preliminary review of cultural resources has identified a significant number of historic homes which may be adversely affected by the project. I am addressing this correspondence to you as the representative for the Taylorsville Certified Local Government.

UDOT and the Utah State Historic Preservation Office (SHPO) will soon conduct consultation to determine the eligibility of the potentially historic buildings in the project area for the National Register of Historic Places. A total of 74 properties have been documented as being of sufficient age, and are currently being evaluated for integrity. The majority of these properties are located in Kearns Township, and a few are located in Taylorsville City. In addition, a single archaeological site, the railroad located between 4800 West and Northwest Avenue, was identified.

In accordance with state regulations, UDOT requests that you review this information and notify us whether or not you have any concerns with archaeological or historic sites in the project area, and identify issues relating to the undertaking's potential effects on historic properties.

At your request, UDOT staff will be available to meet with you to discuss any concerns you may have, including comments you have on the adversely affected properties and suggestions you may have to avert, minimize or mitigate the effect of the proposed undertaking. A response within 30 days would be appreciated should you have concerns about this project and/or wish to be a consulting party. Please feel free to contact me at

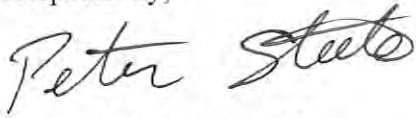
Russ Wall, Letter
17 March 2011
Page 2 of 2

(801) 887-3410, or via email at psteele@utah.gov, if you have any questions or need any additional information.

I have enclosed maps of the project area in Salt Lake County. Portions of the technical report describing the historic properties that will be adversely affected will be available in April at your request. I would also be happy to provide you with the entire report, once it is finalized, and any additional information upon your request.

I sincerely appreciate your assistance with this important matter, and look forward to working with you.

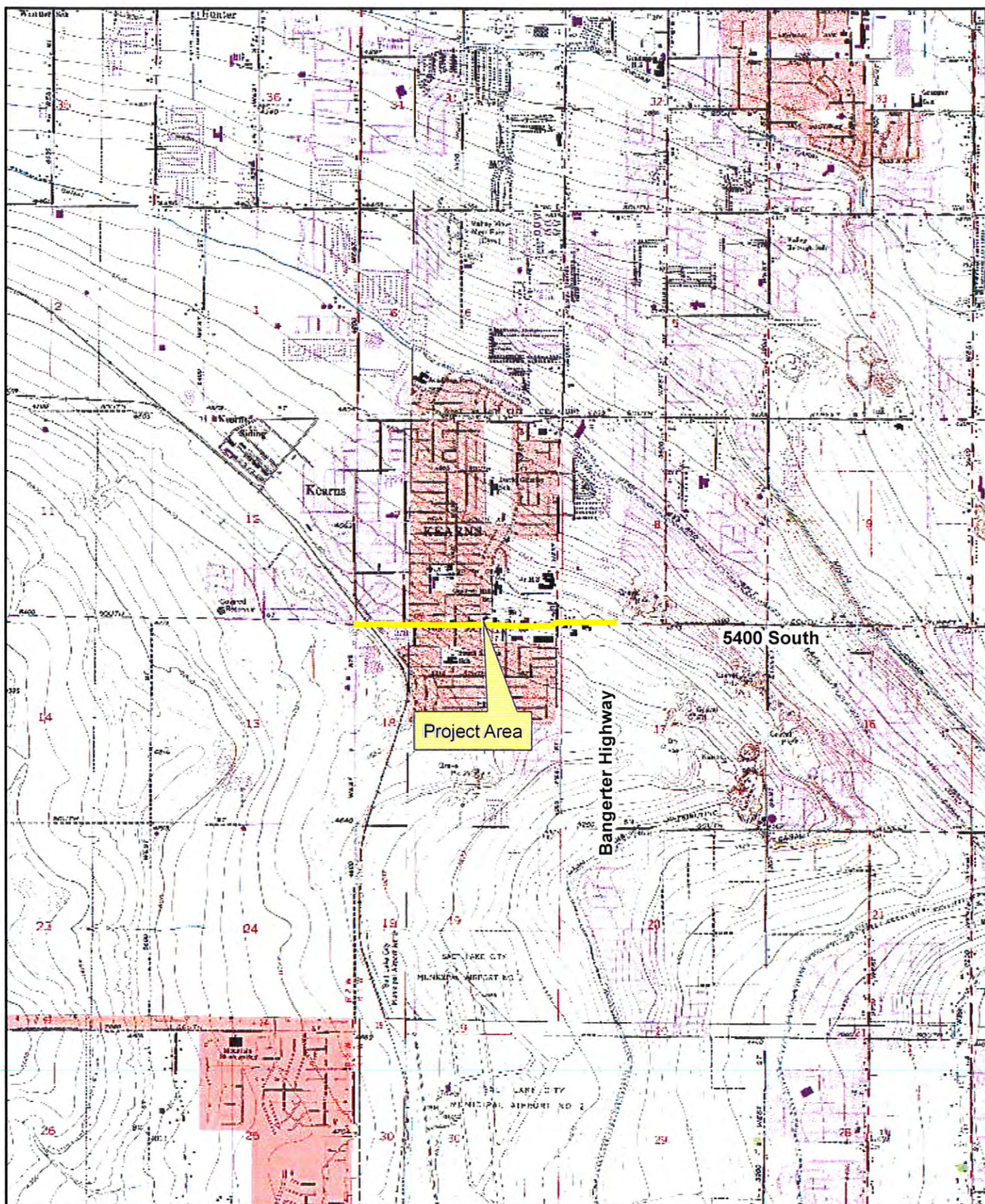
Respectfully,

A handwritten signature in cursive script that reads "Peter Steele".

Peter Steele, M.A., RPA
Regional NEPA/NHPA Specialist
Utah Department of Transportation, Region 2

Identical copies of this letter sent to:

Ms. Emily Farmer, Salt Lake County CLG
Mayor Peter Corroon, Salt Lake County CLG
Mr. Donald Adams, Taylorsville CLG
Ms. Joan White, Taylorsville CLG



UDOT Project S-0173(16)5
SR-173, 5400 South; Bangarter Highway to 4800 West

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 Miles



Bassett-Hales, Jennifer B.

From: Pam Todd [kearnshistorian01@yahoo.com]
Sent: Wednesday, April 06, 2011 12:59 PM
To: Peter Steele
Subject: Re: UDOT Project Effects on Historic Buildings

Dear Mr. Steel

Thank you for your e mail dated April 6, 2011 regarding UDOT Project No. S-0173(16)5: 5400 South Bangerter to 4800 West Project.

During the years of the military base there was nothing left on 5400 that is related to that era except the Catholic Church, located on the north side of 5400 if you are looking west. That was a Camp Kearns Church, however it can not be put on any sort of a historical register because it has been altered and can no longer be identifiable as a Camp Kearns Church.

As for the corner of 4100 west and 5400 south, people have long called this the gateway to Kearns believing that this was where the main gate to the base was located. The main gate was located about a football field away from the cannon and flag pole. Realistically the main gate can be located closer to where US West Bank is now. In reviewing my Camp Kearns Maps the building that "Big Lots" is located is where the Headquarters building was located, however this building is not a Camp Kearns building. There will be people who will also try and tell you that the cannon and flag pole was at Camp Kearns. I can tell you that I honestly do not believe that neither of them were part of the base or was anywhere near the base during the years of 1942-1946. They were obtained by the VFW in Ogden at a military surplus and those items can not be traced as having ever been part of the base.

The original 100 homes of the community of Kearns are not located in this area where the work will be taken place. The homes that will be effected was built by Mountain View Construction Company, do to some legal problems with in the company that put the selling or construction of new homes on hold until the legal issue's were dealt with, most of those home are on the south side of the road if you are looking west. There are also a few of the same homes on the north side of the street by the Catholic Church. The other homes on the west side of the fire department was built by Hoffman Constructions and they picked up after the mess with Mountain View Construction and building started again in 1952, and were part of the next 200 homes to be built in Kearns. Again some of those homes have been altered and would not qualify for a historical register.

As for the railroads; it would be real difficalt to say what those tracks were part of during the war years or community years. There were 7 spurs that came through Kearns during this time, one of the spurs were used for transporting men to and from Kearns and the Japanese people to those camps. In the warehouse area of Kearns are tracks going behind each of those buildings, each of them had docks and tracks, somewhere along the line they all connected. Some of those same tracks were used during the mining era, and transporting goods from the mines to KKC. The tracks that you have mentioned have been moved from the location they were in during

the Camp Kearns times.

I hope this helps. I will send you pictures and a map of the items in question. Feel free to call me any time at 801-347-3431

Pam Todd

Kearns Historian

Kearns Historical Society

--- On **Wed, 4/6/11**, Peter Steele <psteele@utah.gov> wrote:

From: Peter Steele <psteele@utah.gov>

Subject: UDOT Project Effects on Historic Buildings

To: kearnshistorian01@yahoo.com

Date: Wednesday, April 6, 2011, 11:37 AM

Dear Ms. Todd,

I am writing to inform you of a UDOT project, the widening of 5400 South between Bangerter Highway and 4800 West, which will have effects on historic properties in Kearns Township. I have attached a letter and map to this e-mail which contain more information on the project. I would have sent them by mail, but did not have an address for you. In two or three weeks, UDOT will be ready to release information regarding the exact nature of effects on historic buildings, including a Determination of Eligibility/Finding of Effect (DOEFOE) for the project as a whole. The DOEFOE will be provided to the State Historic Preservation Officer (SHPO) for concurrence on eligibility of potential historic buildings for the National Register of Historic Places, as well as the nature of the effect of the project on each eligible building.

I am quite certain at this time that the project will have an adverse effect on historic buildings in Kearns. After our determination has been officially made in the DOEFOE, I would like to begin discussions with you as well as Salt Lake County (as the Certified Local Government or CLG) and the SHPO regarding efforts to mitigate this adverse effect on the historic resources of Kearns. Particularly if there is some historic preservation project which UDOT might assist with some funding, we would be delighted to hear about it. Please let me know if you have any questions.

Sincerely,

Peter Steele
Regional NEPA/NHPA Specialist
UDOT Region 2
(801) 887-3410

Bassett-Hales, Jennifer B.

From: JOAN WHITE [jwhyter@msn.com]
Sent: Wednesday, March 23, 2011 3:08 PM
To: psteele@utah.gov
Subject: FW: UDOT Project No. S-173(16)5: 5400 South Widening

From: jwhyter@msn.com
To: psteele@uth.gov
Subject: UDOT Project No. S-173(16)5: 5400 South Widening
Date: Wed, 23 Mar 2011 21:06:47 +0000

Thank you for the information concerning historic homes that may be affected by the widening of 5400 South. I would be interested in getting a list of the sites involved when it is available. Also, please keep me in the loop on this project.
Thanks,
Joan C. White

Bassett-Hales, Jennifer B.

From: Donald Adams [dadams@taylorsvilleut.gov]
Sent: Thursday, March 24, 2011 5:04 PM
To: psteele@utah.gov
Subject: Project No. S-0173(16)5.

Peter,

I have received your request to assist on Project No. S-0173(16)5. Feel free to have your team contact me at any time. My contact information can be found below.

Donald Adams | Office of the Mayor | City of Taylorsville

o: 801.963.5400 | m: 801.558.8795 | f: 801.963.7891

dadams@taylorsvilleut.gov

www.taylorsvilleut.gov



Please do not print this e-mail unless it is completely necessary!

155 North 400 West
Suite 550
Salt Lake City, UT 84103
1-801-355-1112 Fax 1-801-355-3990

Date: 2/18/2011
To: Files
From: Rick Black, Senior Ecologist
Subject: Natural Resources Assessment – 5400 South Widening


SR173, 5400 South, Bangerter Hwy to 4800 West
Project No. S-0173(16)5

On January 27, 2011, Jacobs conducted a preliminary field visit to assess project-level natural resource impacts from the proposed 5400 South widening project referenced above. It was observed that the study area from Bangerter Highway to approximately 4270 West is a highly disturbed and urbanized area, comprised primarily of commercial and residential properties. Following the visit, on January 31, 2011, Jacobs sent a letter to the UDOT wildlife biologist requesting a wildlife review and agency coordination for the project. A letter from the UDOT wildlife biologist, Mr. Paul West, dated February 8, 2011, indicated that “no federally listed threatened, endangered, or candidate species or any critical habitat would be affected” and no further Section 7 consultation should be required. In addition, “this project would have no effect to any state-sensitive species, important wildlife habitat, big game migration routes, habitat connectivity, migratory birds, or to fish passage.”

On February 18, 2011 Jacobs conducted another site visit to confirm Mr. West’s findings and to assess the potential for impacts to Waters of the United States or wetlands that could be present in the study area. No resources that would fall under the Jurisdiction of the USACE were observed. It was concluded that there are no natural resources or Waters of the United States or wetlands present in the study area that could be potentially affected by the proposed widening project.

Submitted:

Reviewed:


Rick Black
Jacobs Engineering, Inc.
Senior Ecologist

Mason Palmer
UDOT Region 2
Landscape Architect



**Utah Department of Transportation
Region 2 Environmental**

MEMORANDUM

TO: Rick Black, Senior Ecologist
Jacobs Engineering, Inc

FROM: Mason J. Palmer, Landscape Architect, UDOT Region 2

DATE: April 11, 2011

RE: Concurrence with Wetland Determination and Wetland Clearance.
SR173: 5400 South, Bangerter Hwy to 4800 West, Salt Lake County
UDOT Project: S-0173(16)5 PIN 8523

Following an evaluation of the proposed project area and a review of your determination letter dated February 18, 2011, I concur with your determination that there are no wetlands or Waters of the U.S present within the study area. Therefore the proposed project will not result in impacts to wetlands as outlined in the 1987 Corps of Engineers Wetland Delineation Manual. In addition, it has been determined that the project will not result in impacts to mudflats, lakes, perennial or ephemeral streams, as they are not present within the project area

With consideration of the above information, the above referenced project is granted a wetland clearance.

Please contact me by email at masonpalmer@utah.gov or by phone at 801-975-4970 with any questions or concerns regarding the above concurrence or clearance.

Bassett-Hales, Jennifer B.

From: Peter Steele [psteele@utah.gov]
Sent: Monday, April 11, 2011 3:51 PM
To: Bassett-Hales, Jennifer B.; Jennifer Elsen
Cc: Rebecka Stromness
Subject: Fwd: UDOT Project No. S-0173(16)5: 5400 South; Bangerter to 4800 West Project

I received this reply from Salt Lake County today, in response to my CLG letter. I responded by explaining about the next few steps, submitting the DOEFOE, and determining a project for mitigation, and also explained that we were aware of the memorial and planned to relocate it.

Thanks,
Peter

>>> Michelle Schmitt <MSchmitt@slco.org> 4/11/2011 3:32 PM >>>
Mr. Steele,

Thank you for your letter to Mayor Corroon. Kearns residents take pride in their Veterans Memorial, this is of historical and symbolic importance to the community and will need to be relocated to an appropriate place. There is a woman in the community who claims this Memorial is currently located where the front gate of Camp Kearns once was and may protest its relocation. However, SLCo's Kearns community liaison, Greg Schulz, has informed me that if you look at an old surveyor map this will be disproved. Please let me know if you need anything else.

Greg – can you please send Mr. Steele the address where the Kearns Veterans Memorial is located?

Thanks,
Michelle

Michelle Schmitt
Public Communications Specialist
Salt Lake County
Office of the Mayor
(801) 468-3302 - office

11-1155



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

JOHN R. KORDT, PE
Executive Director

CARLOS M. BRACERAS, PE
Deputy Director

May 25, 2011

Cory Jensen, Senior Preservation Program Specialist
Division of State History
300 Rio Grande
Salt Lake City, Utah 84101-1182

RE: Utah Antiquities Project U-10-LI-0902ps. A Cultural Resources Survey for UDOT along 5400 South Between 4015 West and 4800 West, Kearns, Salt Lake County, Utah.

UDOT Project No. S-0173(15)5: 5400 South; Bangerter to past 4800 West, Taylorsville and Kearns, Salt Lake County, Utah. **Determination of Eligibility and Finding of Effect**

Dear Mr. Jensen,

The Utah Department of Transportation (UDOT), is conducting an environmental review of a proposal to widen 5400 South from a five-lane cross-section to a seven-lane cross-section between Bangerter Highway and 4800 West. Intersection improvements (including the construction of median U-turns on 4015 West at Sam's Blvd. and 5535 South), sidewalk reconstruction, utility relocations and other project activities may also be required. The Area of Potential Effects (APE) for both the architectural and archaeological surveys covers 5400 South between 4800 West and Bangerter Highway to a depth of one property, as well as 4015 West between 5115 South and 5580 South to a depth of one property.

In accordance with Utah Code Annotated (U.C.A.) §9-8-404, the UDOT is taking into account the effects of this undertaking on historic properties, and will afford the USHPO an opportunity to comment on the undertaking. Please review this letter and, providing you agree with the determinations contained herein, sign and date the signature line at the end of this letter.

Consultation Efforts

Consultation efforts were undertaken with interested parties in order to gain input on historic properties and the project's proposed effects on those properties. Letters were sent to Native American tribes (Shoshone-Bannock Tribes, Northwestern Band of the

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Shoshone Nation, Eastern Shoshone Tribe of the Wind River Reservation, Skull Valley Band of Goshute Indians, Uintah and Ouray Ute Indian Reservation, Cedar Band of Paiutes and Confederated Tribes of the Goshute Reservation) on March 7, 2011. No responses have been received to date.

Additionally, letters were sent to representatives of the Taylorsville CLG and Salt Lake County CLG, as well as Ms. Pam Todd of the Kearns Historical Society. Responses were received from all parties, who are being included in consultation on the effects of the project on historic properties, as well as proper mitigation for adverse effects.

Archaeological Sites

An archaeological survey was undertaken in December 2010 by Logan Simpson Design Inc. staff. The survey covered 34.04 acres. The survey identified one archaeological site within the project's Area of Potential Effects (APE): 42SL333, the Denver and Rio Grande Railroad, Garfield Branch. A supplemental survey of 4015 West between 5115 South and 5580 South, and of 5400 South between 4015 West and Bangerter Highway was conducted March 10, 2011 by Peter Steele of UDOT and discovered no additional archaeological sites.

42SL333

The Denver and Rio Grande Railroad, Garfield Branch lies in the western portion of the project area. It was previously recorded under other projects but this segment was newly recorded by the survey. The railroad was constructed in 1905 to carry ore from mines to smelters. 42SL333 has been previously determined **eligible** for the National Register, due to its association with the Bingham Copper Mine and its contributions to local history and it is recommended that this determination not be changed. The line remains in active use. The project will pass under the railroad and the bridge over 5400 South will not be affected by this project. There will be no effect to the property, and it is therefore recommended that the effect of this project on 42SL333 be **No Historic Property Affected**.

Architectural Properties

A selective reconnaissance level survey of architectural properties in the project area was undertaken from January 31-February 2, 2011 by Greta Rayle and Garret Webb of Logan Simpson Design, Inc. The survey examined all historic buildings (constructed in or prior to 1965) along 5400 South between 4800 West and 4015 West, and considered the current parcel boundary as the historic property boundary. A total of 74 properties were surveyed (57 residential, 15 commercial and 2 religious), of which 47 (46 residential and 1 commercial) are eligible for inclusion in the National Register of Historic Places. In addition, a supplemental survey conducted by Elizabeth Giraud of UDOT in March 2011 examined all historic buildings on 4015 West between 5115 South and 5580 South and on 5400 South between 4015 West and Bangerter Highway. This survey also used the current parcel boundary as the historic property boundary. This survey identified 7 historic properties of which 1 (a school) is eligible for the National Register. The total

number of buildings surveyed in both surveys was 81, of which 48 are considered eligible for the National Register. A summary of the results of both surveys is found in Table 1.

Table 1
Determination of Eligibility

Address	City	Date	Description	SHPO Rating/Eligibility
3950 W. 5400 S.	Taylorville	c. 1965	Commercial; Late 20 th Century: other	C/Ineligible
3970 W. 5400 S.	Taylorville	c. 1956	Commercial; Post WWII: other	C/Ineligible
4140 W. 5415 S.	Kearns	c. 1964	Commercial; Late 20 th Century: other	C/Ineligible
4180 W. 5415 S.	Kearns	c. 1959	Multi-family dwelling; Late 20 th Century: other	C/Ineligible
4188 W. 5415 S.	Kearns	C. 1966	Commercial; Late 20 th Century: other	B/Eligible
4270 W. 5415 S.	Kearns	c. 1961	Commercial; Late 20 th Century: other	C/Ineligible
4290 W. 5415 S.	Kearns	c. 1960/Modern	Religious; Modern, Post-war modern	C/Ineligible
4360 W. 5415 S.	Kearns	c. 1950s/1987	Religious; Modern, Post-war modern	C/Ineligible
4380 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4390 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
5401 S. 4420 W.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
5406 S. 4460 W.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	C/Ineligible
4476 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4486 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4496 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4504 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4514 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible

Address	City	Date	Description	SHPO Rating/Eligibility
4526 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4534 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4542 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4552 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4566 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4576 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4586 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4594 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4604 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
5404 S. 4620 W.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
5405 S. 4620 W.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4648 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4656 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	C/Ineligible
4666 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	C/Ineligible
4674 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4682 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	C/Ineligible
4690 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4698 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4706 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	C/Ineligible

Address	City	Date	Description	SHPO Rating/Eligibility
4714 W. 5415 S.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	B/Eligible
4724 W. Northwest Ave. (5415)	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	C/Ineligible
5405 S. Northwest Ave.	Kearns	c. 1956	Single Family; WWII/Post-war, early ranch	C/Ineligible
4675 W. 5415 S.	Kearns	c. 1962	Commercial; Late 20 th Century, other	C/Ineligible
4655 W. 5415 S.	Kearns	c. 1960	Commercial; Late 20 th Century, other	C/Ineligible
4561 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4551 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4541 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4531 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4521 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4511 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4501 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4491 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4481 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4471 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4461 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4451 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4441 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	C/Ineligible

Address	City	Date	Description	SHPO Rating/Eligibility
5430 S. 4420 W.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
5431 S. 4420 W.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	C/Ineligible
4391 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4381 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4371 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4361 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4351 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4341 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
5426 S. 4320 W.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	C/Ineligible
4309 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	C/Ineligible
4299 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4289 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4279 W. 5415 S.	Kearns	c. 1951	Single Family; WWII/Post-war, Minimal traditional	B/Eligible
4261 W. 5415 S.	Kearns	c. 1962/Mod ern	Commercial; Late 20 th Century, other	C/Ineligible
4235 W. 5415 S.	Kearns	c. 1957/Mod ern	Commercial; Late 20 th Century, other	C/Ineligible
4195 W. 5415 S.	Kearns	c. 1958/Mod ern	Commercial; Late 20 th Century, other	C/Ineligible
4041-4095 W. 5400 S.	Kearns	c. 1956/Mod ern	Commercial; Late 20 th Century, other	C/Ineligible
3965 W. 5400 S.	Taylor ville	c. 1955/Mod ern	Commercial; Late 20 th Century, other	C/Ineligible

Address	City	Date	Description	SHPO Rating/Eligibility
3951 W. 5400 S.	Taylorville	c. 1956/Modern	Commercial; Late 20 th Century, other	C/Ineligible
3901 W. 5400 S.	Taylorville	c. 1960/Modern	Commercial; Late 20 th Century, other	C/Ineligible
4100 W. 5313 S.	Kearns	1957	School; Post-World War II Other	B/Eligible
5433 S. 4015 W.	Taylorville	1963	Commercial; Post-World War II Other	C/Ineligible
5490 S. 4015 W.	Kearns	1955	Single Family; Early Ranch	C/Ineligible
5510 S. 4015 W.	Kearns	1955	Single Family; Early Ranch	C/Ineligible
5530 S. 4015 W.	Kearns	1955	Single Family; Early Ranch	C/Ineligible
5550 S. 4015 W.	Kearns	1954	Single Family; Early Ranch	C/Ineligible
5560 S. 4015 W.	Kearns	1955	Single Family; Early Ranch	C/Ineligible

A summary of the effect of this project on the various eligible properties is contained in Table 2.

Table 2^a
Finding of Effect

Address	City	Nature of Impact	Effect	
4100 W. 5313 S.	Kearns	Partial Acquisition	No Adverse Effect	B/Eligible
4188 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4380 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4390 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
5401 S. 4420 W.	Kearns	None	No Historic Properties Affected	B/Eligible
4476 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4486 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible

Address	City	Nature of Impact	Effect	
4496 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4504 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4514 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4526 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4534 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4542 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4552 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4566 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4576 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4586 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
4594 W. 5415 S.	Kearns	Temporary Easement	No Adverse Effect	B/Eligible
4604 W. 5415 S.	Kearns	Easement	No Adverse Effect	B/Eligible
5404 S. 4620 W.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
5405 S. 4620 W.	Kearns	Easement	No Adverse Effect	B/Eligible
4648 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4674 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4690 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4698 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4714 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4561 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4551 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4541 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4531 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4521 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible

Address	City	Nature of Impact	Effect	
4511 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4501 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4491 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4481 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4471 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4461 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4451 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
5430 S. 4420 W.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4391 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4381 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4371 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4361 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4351 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4341 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4299 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4289 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible
4279 W. 5415 S.	Kearns	Full Acquisition	Adverse Effect	B/Eligible

As can be seen from Table 2, 1 eligible property (5401 S. 4420 W.) will be completely avoided by the proposed project, and have a finding of **No Historic Properties Affected**.

One eligible property (4100 W. 5313 S. Kearns Junior High) will have a corner of the property acquired, which will not substantially affect the historic property. UDOT recommends that the effect on this property be **No Adverse Effect**.

One eligible property (4594 W. 5415 S.) will require a temporary easement, but this will not have a substantial effect on the historic property. UDOT recommends that the effect on this property be **No Adverse Effect**.

Seventeen properties (listed in Table 2) will require permanent easements, but will have no property acquired. UDOT recommends that the effect on these properties be **No Adverse Effect**.

The other 28 eligible properties (listed in Table 2) will be acquired and demolished. Because of this impact, UDOT recommends that the effect on these 28 properties, and the overall effect of this project on historic properties, be **Adverse Effect**.

Please do not hesitate to contact me at (801) 887-3410 or psteele@utah.gov if you have any questions or need additional information.

Sincerely,

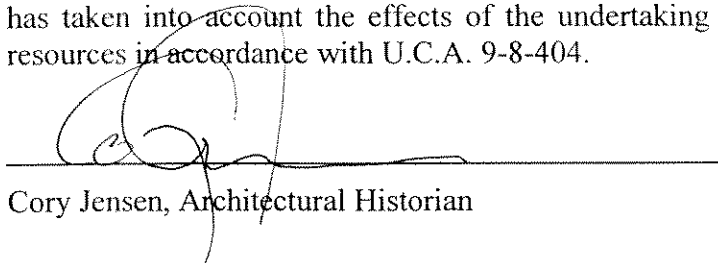


Peter Steele
Regional NEPA/NHPA Specialist
UDOT Region 2



Elizabeth Giraud
Architectural Historian
UDOT

I concur with the overall finding of **Adverse Effect** for UDOT Project No. S-0173(16)5: 5400 South; Bangerter to past 4800 West, Salt Lake County, Utah.; and that the UDOT has taken into account the effects of the undertaking upon historic and archaeological resources in accordance with U.C.A. 9-8-404.


Cory Jensen, Architectural Historian

06-01-11

Date

**MEMORANDUM OF AGREEMENT
BETWEEN
THE UTAH DEPARTMENT OF TRANSPORTATION,
AND
THE UTAH STATE HISTORIC PRESERVATION OFFICE
REGARDING
PROJECT NO. S-0173(16)5: 5400 SOUTH; BANGERTER TO PAST 4800 WEST, SALT LAKE
COUNTY, UTAH.
UDOT PIN 8523**

WHEREAS, the Utah Department of Transportation (UDOT), proposes to use state funds to undertake **Project No. S-0173(16)5: 5400 South; Bangerter to Past 4800 West, Salt Lake County, Utah** (hereafter referred to as the Project), which involves the widening of 5400 South between Bangerter Highway and 4800 South from a five-lane cross-section to a seven-lane cross-section, and

WHEREAS, in accordance with the *Programmatic Agreement Between the Utah Department of Transportation and the Utah State Historic Preservation Officer Regarding Programmatic Agreement Between the Utah Department of Transportation and the Utah State Historic Preservation Officer Regarding Implementation of U.C.A. 9-8-404 for State-Funded Transportation Projects in Utah* (executed March 19, 2008), UDOT is taking into account the effects of the Project, on historic properties and has determined that this undertaking will have an adverse effect on 28 historic residential properties eligible for inclusion in the National Register of Historic Places, UDOT has consulted with the Utah State Historic Preservation Officer (SHPO) pursuant to U.C.A. 9-8-404 to resolve the adverse effects; and

WHEREAS, the Salt Lake County Certified Local Government has participated in the consultation regarding the effects of the undertaking on historic properties; and

WHEREAS, the Northwestern Band of Shoshone Nation, Utah; the Ute Indian Tribe of the Uintah and Ouray Reservation, Utah; the Shoshone-Bannock Tribes of the Fort Hall Reservation, Idaho; the Eastern Shoshone of the Wind River Reservation, Wyoming; the Skull Valley Band of Goshute Indians; the Confederated Tribes of the Goshute Reservation; and the Cedar Band of Paiute, Utah (hereafter called Tribes) were invited to participate in the technical coordination and consultation, and none chose to participate;

NOW, THEREFORE, the UDOT and the Utah SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The UDOT shall ensure that the following stipulations are carried out:

I. Mitigation of Adverse Effects on Historic Buildings

A. Documentation of the Historic Properties

Prior to construction activity, the UDOT will research and record the historic properties according to the Utah State Intensive Level Survey (ILS) Standards outlined in the *Intensive Level Survey Standard Operation Procedures* written by USHPO. Documentation will include a completed ILS Historic Site Form, at least two black and white photographs of the exterior of the properties, and the tax card and tax photos of the

properties.

B. Funding for Historic Preservation Project

UDOT shall allocate \$6,000 towards the funding of a historic preservation project in Kearns Township, to be determined at a later date in consultation between UDOT, Utah SHPO and the Salt Lake County CLG.

II. Reporting

The UDOT shall ensure that any/all reports on activities carried out pursuant to this agreement are provided to the SHPO, the signatories to this MOA, and upon request, to any other interested parties

III. Personnel Qualifications

- A. The UDOT shall ensure that all historic work carried out pursuant to this agreement is completed by or under the direct supervision of a person or persons meeting or exceeding the Secretary of the Interior's Historic Preservation Qualification Standards for History (36 CFR 61 Appendix A).

IV. Duration

- A. This agreement will be null and void if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, the UDOT may consult with the other signatories to reconsider the terms of the agreement and amend it in accordance with Stipulation VI below.

V. Discovery

- A. The following measures regarding inadvertent discoveries of historic properties, archaeological sites, and paleontological resources will be implemented:
 - i. In accordance with Stipulation XI.B of the *Programmatic Agreement Among the Federal Highway Administration, the Utah Department of Transportation, the Utah State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Section 106 Implementation for Federal-Aid Transportation Projects in the State of Utah*, and pursuant to 36 CFR 800.13(b), the UDOT is providing for the protection, evaluation and treatment of any historic property discovered prior to or during construction. Should a discovery occur, construction will stop immediately and the UDOT will consult with the SHPO, Native American tribes, and any other identified interested parties, toward developing and implementing an appropriate treatment plan prior to resuming construction. If neither the SHPO nor a Tribe files an objection within 72 hours to UDOT's plan for addressing the discovery, UDOT may carry out the requirements of 36 CFR 800.13 on behalf of FHWA, and the Council does not need to be notified.
 - ii. UDOT Standard Specifications Section 01355, Part 1.13, Discovery of Historical, Archaeological or Paleontological Objects, Features, Sites, Human Remains,

Migratory Avian Species will be enforced during this project. This specification stipulates procedures to be followed should any archaeological, historic or paleontological resources be discovered during construction of the project. These procedures are as follows:

1. Immediately suspend construction operations in the vicinity of the discovery if a suspected historic, archaeological or paleontological item, feature or site is encountered, or if suspected human remains are encountered.
2. Verbally notify the engineer of the nature and exact location of the findings.
3. The Engineer contacts the UDOT region staff archaeologist, who will assess the nature of the discovery and determine the necessary course of action.
4. Notify the Engineer who in turn notifies the Region Environmental Manager and the UDOT Wildlife Biologist if bats or migratory birds are discovered on structures.
5. Protect the discovered objects or features and provide written confirmation of the discovery to the Engineer within two calendar days.
6. The Engineer keeps the Contractor informed concerning the status of the restriction: 1) the time necessary for the Department to handle the discovered item, feature or site is variable, dependent on the nature and condition of the discovered item; and 2) the Engineer will provide written confirmation when work may resume in the area.

VI. Dispute Resolution

- A. Should any party to this agreement object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the UDOT shall consult with the objecting parties to resolve the objection. If the UDOT determines, within 30 days, that the objection(s) cannot be resolved, the UDOT will:
 - i. Forward all documentation relevant to the dispute to the Public Lands Policy Coordination Office (PLPCO) in accordance with U.C.A. 9-8-404. Upon receipt of adequate documentation, PLPCO shall review and advise the UDOT on the resolution of the objection within 30 days. Any comment provided by PLPCO and all comments from the parties to the MOA will be taken into account by the UDOT in reaching a final decision regarding the dispute.
 - ii. If PLPCO does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, the UDOT may render a decision regarding the dispute. In reaching its decision, the UDOT will take into account all comments regarding the dispute from the parties to the MOA.

- iii. The UDOT's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged. The UDOT will notify all parties of its decision in writing before implementing that portion of the undertaking subject to dispute under this stipulation. The UDOT's decision will be final.
- iv. Further, at any time during implementation of the measures stipulated in this agreement should an objection to any such measure be raised by a member of the public, the UDOT shall take the objections into account and consult as needed with the objecting party, the SHPO or PLPCO to resolve the objection.

VII. Amendments and Noncompliance

- A. If any signatory to this MOA, including any invited signatory, determines that its terms will not or cannot be carried out or that an amendment to its terms must be made, that party shall immediately consult with the other parties to develop an amendment to this MOA. The amendment will be effective on the date a copy signed by all of the original signatories is filed with the Council. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with Stipulation VII below.

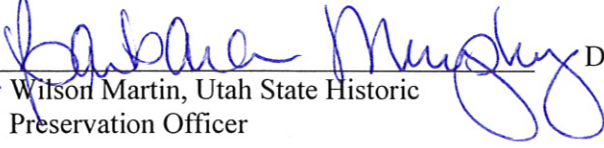
VIII. Termination

- A. If an MOA is not amended following the consultation set out in Stipulation VII, it may be terminated by any signatory or invited signatory. Within 30 days following termination, the UDOT shall notify the signatories if it will initiate consultation to execute an MOA with the signatories and proceed accordingly.

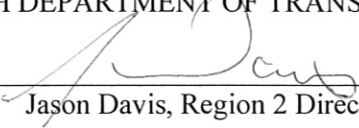
Execution of this Memorandum of Agreement by the UDOT and the Utah SHPO prior to UDOT's approval of this undertaking, and implementation of its terms, serves as evidence that the UDOT has taken into account the effect of this undertaking on historic properties, and has afforded the SHPO an opportunity to comment on **Project No. S-0173(16)5: 5400 South; Bangerter to Past 4800 West, Salt Lake County, Utah.**

SIGNATORIES:

UTAH STATE HISTORIC PRESERVATION OFFICER

By:  Date: 6.13.11
for Wilson Martin, Utah State Historic
Preservation Officer

UTAH DEPARTMENT OF TRANSPORTATION

By:  Date: 6/6/11
Jason Davis, Region 2 Director



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF ENVIRONMENTAL
RESPONSE AND REMEDIATION

Brent H. Everett
Director

ERRC-070-11

May 24, 2011

5400 South Project
c/o PPBH
1706 South Major Street
Salt Lake City, Utah 84115

Re: Notice of Availability and Public Hearing 5400 South, Bangerter Highway to 4800 West State Environmental Study

Dear Project Manager:

The Utah Department of Environmental Quality, Division of Environmental Response and Remediation (DERR) has received your request of April 2011, for input regarding the above referenced project.

While it is acknowledged that you reviewed the DERR Interactive Map during development of the draft State Environmental Study (SES), we encourage you to review the Interactive Map again prior to finalizing the SES to ensure you are informed of any new data. The Interactive Map is located at: <http://dagrc.utah.gov/deq/>. You are also encouraged to speak to the Division of Solid and Hazardous Waste at (801) 536-0200 and the Division of Water Quality at (801) 536-4300.

It is possible that future construction activities associated with this project will encounter hazardous substances. These materials must be managed and disposed of properly. If impacted materials are encountered during construction, please notify the DERR.

If you have any questions regarding this letter, please feel free to contact me at (801) 536-4219.

Sincerely,

David Bird, Environmental Engineer
Division of Environmental Response and Remediation

DGB/eds

cc: Gary L. Edwards, M.S., Director, Salt Lake Valley Health Department
Brandon Weston, Utah Department of Transportation

APPENDIX B

NOISE REPORT



5400 S

BANGERTER HIGHWAY TO 4800 WEST

Noise Technical Report

PRELIMINARY NOISE ANALYSIS

for



**SR-173, 5400 South, Bangerter Highway to 4800 West,
Salt Lake County**

**UDOT Project No. S-0173(16)5
PIN 8523**

Prepared for:



Region 2
2010 South 2760 West
Salt Lake City, UT 84104
Contact: Troy Peterson

Prepared by:



155 North 400 West, Suite 550
Salt Lake City, Utah 84103

June 2011

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NOISE TECHNICAL REPORT

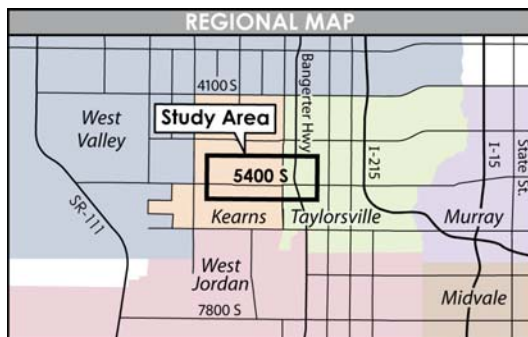
1.0 INTRODUCTION

The Utah Department of Transportation proposes to construct approximately 1.3 miles of transportation capacity improvements on 5400 South (State Route [SR]-173) in Salt Lake County, Utah. The improvements would occur within Kearns Township and the City of Taylorsville. A State Environmental Study (SES) is underway to determine potential impacts due to the proposed improvements.

2.0 PROJECT STUDY AREA

The study area is mostly within Kearns Township limits, with the remainder being within the City of Taylorsville. The study area includes 5400 South from Bangerter Highway to 4800 West and 4015 West in the vicinity of the intersection with 5400 South, and this study area includes all noise-sensitive receivers that may be impacted as a result of the proposed widening project (**Figure 1**). Noise-sensitive receivers within the study area include residential properties and three churches.

Figure 1: Proposed Widening Project Study Area

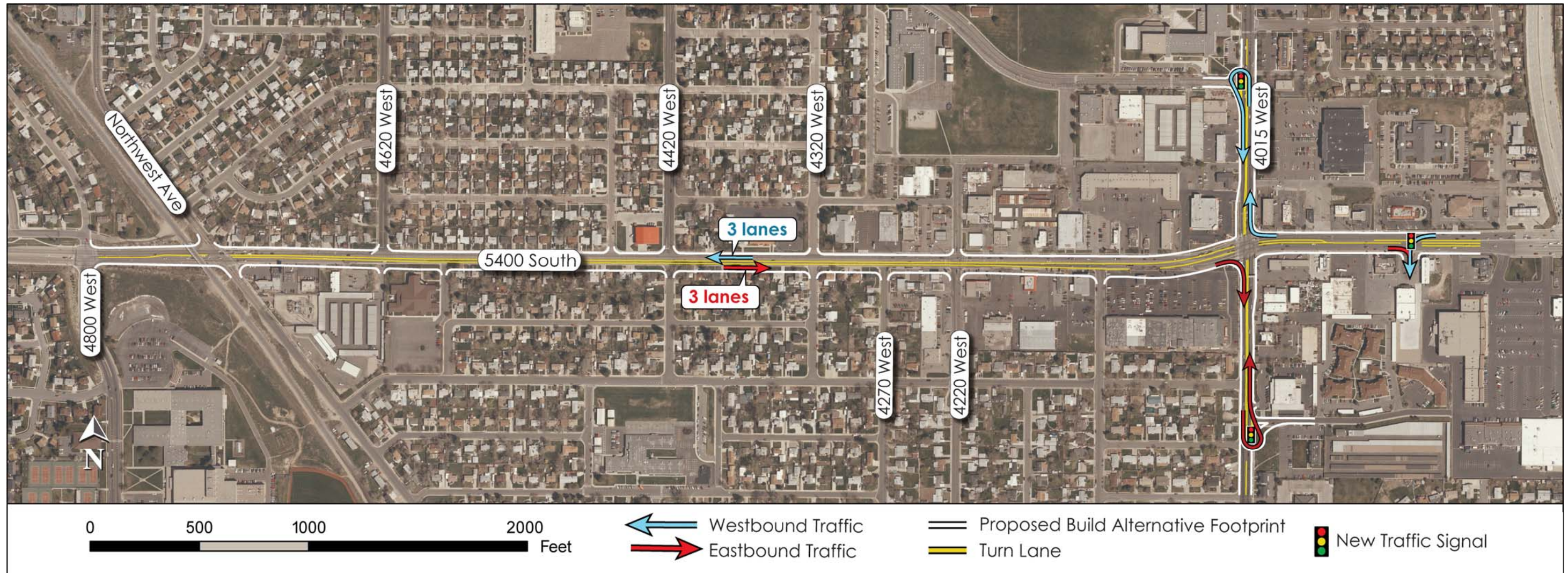


3.0 BUILD ALTERNATIVE

The Build Alternative includes widening 5400 South to seven lanes (three travel lanes in each direction, with a center turn lane) with new, wider sidewalks along both sides of 5400 South. Intersection improvements would occur at 4015 West and 5400 South and at 4800 West and 5400 South to increase intersection capacity. A new intersection is planned at 3900 West and 5400 South to improve accessibility to adjacent land uses.

Improvements along the corridor may occur with initial construction or may be phased in at a later date. The Build Alternative is shown in **Figure 2**, and the impacts that the Build Alternative would have on noise are discussed further in this report.

Figure 2: Proposed Build Alternative



4.0 CHARACTERISTICS OF NOISE

Noise is generally referred to as unwanted sound. Sound is defined as a form of energy transmitted by vibrations in the air that are received by the ear through sense of hearing. In this report, the terms noise and sound are used synonymously.

Noise consists of three inter-related elements: the source, the transmission path, and the receiver. In order for there to be noise, all three elements must be present. Without a source to produce sound, there is no noise. Likewise, there is no noise if the sound is not received.

Noise may be continuous or intermittent and of high frequency or low frequency. Traffic noise is typically measured over a one-hour time period, which is defined as the level equivalent ($Leq(h)$).

Sound is described as average sound pressure levels (SPL). The most common unit of measurement is decibel, dB. For the purposes of environmental studies, the A-weighted scale on a common sound level instrument is used since this

scale closely approximates the range of frequencies an average human ear can detect. The A-weighted noise levels are defined as dBA.

5.0 NOISE LEVEL DESCRIPTORS

The following terms are used to quantify impacts and define sound levels. A brief summary of key terminology is provided below:

- **Decibel:** A decibel is a unit of measure for sound. Decibels are presented with the units dB(A) or dBA.
- **dBA:** dBA represents the noise levels in decibels measured with an A-weighted frequency. The A-weighting corresponds to the A-scale on a standard sound level instrument that closely approximates frequencies that the human ear can detect. The A-weighted sound level is the most widely used measurement of environmental noise.
- **$Leq(h)$:** $Leq(h)$ is defined as the equivalent sound level for a one-hour time period.

6.0 FEDERAL AND STATE NOISE STANDARDS

In determining noise impacts and potential mitigation measures, both federal and state regulations are followed. There are four primary regulations that assist in the determination of noise impacts and when it is applicable to provide mitigation for impacted receptors:

- Federal Highway Administration (FHWA), Procedures for Abatement of Highway Traffic Noise and Construction Noise (23 CFR Part 772)
- FHWA, Highway Traffic Noise Analysis and Abatement, Policy and Guidance, June 1995
- Utah Department of Transportation, Noise Abatement Policy, January 2010
- Utah Department of Transportation, Construction Noise and Utah Code (72-6-111 & 112)

Within the *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, FHWA has established Noise Abatement Criteria (NAC) that define noise levels for typical land uses (i.e., land activity categories) (23 CFR 772). UDOT's NAC is consistent with FHWA's NAC (**Table 1**). UDOT considers noise abatement (i.e., mitigation measures) for a proposed project if the NAC for an activity is met or exceeded. UDOT also considers noise abatement when future, worst-case noise levels substantially exceed existing noise levels. UDOT defines a substantial increase as a 10 dBA or more increase above existing noise levels.

Table 1: UDOT Noise Abatement Criteria (NAC)

Activity Category	Leq(h)*, dBA	Description of Activity Category
A	56 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	66 (exterior)	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, hospitals and cemeteries.
C	71 (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D		Undeveloped lands.
E	51 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

* Hourly A-weighted sound level in decibels, reflecting a 1-dBA approach value below 23 CFR 772 values

Source: UDOT 2010

7.0 TRAFFIC NOISE MODEL

FHWA Traffic Noise Model (TNM) Version 2.5 was used to estimate the traffic noise levels at identified noise-sensitive receivers for existing (year 2010) and Build (year 2040) conditions. The basic inputs to noise modeling include roadway network layout, site characteristics, Level of Service (LOS) C traffic volume projections, fleet mix, and vehicular operating speeds. Roadway and noise receiver geometry was based on a MicroStation file and aerial photography.

8.0 TRAFFIC DATA

The UDOT noise policy states that Level of Service (LOS) C traffic volumes must be used to model future worst-case noise levels unless there is compelling reason not to use this LOS. LOS C traffic conditions are characterized by high volumes and high speeds, thereby causing the greatest amount of traffic noise.

Table 2 summarizes the existing and future traffic volumes for the proposed Build Alternative. The existing and future speeds vary throughout the corridor and are summarized in **Table 3**.

Table 2: Existing and Future Traffic Volumes (vehicles per hour)

Roadway Segment	Existing (2010)	Future (2040)
5400 South - Bangerter Highway to 4015 West	2280	2280
5400 South - 4015 West to Northwest Avenue	1470	2280
5400 South - Northwest Avenue to 4800 West	1470	1470
Roadway Segment	Existing (2010)	Future (2040)
4800 West - North of 5400 South	154	154
4800 West - South of 5400 South	652	652
Northwest Avenue - North of 5400 South	326	326
Northwest Avenue - South of 5400 South	155	155
4620 West - North of 5400 South	105	105
4460 West - North of 5400 South	10	10
4420 West - North of 5400 South	112	112
4420 West - South of 5400 South	21	21
4320 West - North of 5400 South	47	47
4320 West - South of 5400 South	9	9
4270 West - South of 5400 South	65	65
4220 West - North of 5400 South	172	172
4220 West - South of 5400 South	192	192
4120 West - South of 5400 South	102	102
4015 West - South of 5400 South	602	602
4015 West - North of 5400 South	789	789
Traffic volumes did not change for eastbound and westbound directions.		

Table 3: Existing and Future Speeds

Roadway Segment	Existing Speed	Future Speed
5400 South - Bangerter Highway to 4015 West	45 mph	45 mph
5400 South - 4015 West to Northwest Avenue	40 mph	40 mph
5400 South - Northwest Avenue to 4800 West	40 mph	40 mph
4800 West	25 mph	25 mph
Northwest Avenue	30 mph	30 mph
4620 West	25 mph	25 mph
4460 West	25 mph	25 mph
4420 West	25 mph	25 mph
4320 West	25 mph	25 mph
4270 West	25 mph	25 mph
4220 West	30 mph	30 mph
4120 West	25 mph	25 mph
4015 West	35 mph	35 mph

9.0 NOISE ANALYSIS

9.1 Land Use and Noise Sensitive Receivers

Noise-sensitive receivers within the study area include residential development and three churches.

9.2 Noise Measurements and Model Validation

Existing noise levels were collected during the PM peak hour on January 26 and January 27, 2011, at four noise-sensitive receiver locations. The PM peak hour is the hour of day with the greatest traffic volumes, which in this case is 4:00 PM to 6:00 PM. The locations were selected to represent ambient conditions within the study area. Noise meters were calibrated and placed at five feet above ground surface because this is the average height of the human ear. Noise readings were collected at ten to fifteen minute intervals for each event. Traffic counts by vehicle type, operating speeds, and existing geometry were collected simultaneously with the noise measurements. Traffic counts and operating speed data were input into the TNM 2.5 model for validation. The difference between the field measurements and the model-predicted noise levels was 3-dBA or less, which is considered validated. Three dBA is relevant because the human ear can begin to detect a change in noise level over 3-dBA.

The noise levels at the measured noise-sensitive receiver locations are summarized in the **Table 4**.

Table 4: Field Recorded and Predicted Noise Measurements at Noise-sensitive Receivers

Receiver #	Location	Field Measured Leq (dBA)	TNM Predicted Leq (dBA)	Difference (+/-)
M1	Resident: 5400 South (between 4460 West and 4620 West)	76	74	-2
M2	Resident: 5400 South (east of 4320 West)	74	72	-2
M3	Resident: 5460 South (second row, west of 4420 West)	54	55	+1
M4	Resident: 5460 South (second row, west of 4320 West)	53	55	+2

Figure 3 shows the locations of receivers (M1 through M4) where sound level measurements were taken and locations of receivers (R1 through R150) where sound levels were modeled using TNM. **Table 5** summarizes noise levels at modeled noise-sensitive receivers for the existing (year 2010) and Build (year 2040) conditions. Receivers were combined in the table because they are close in proximity and experience similar predicted future noise levels.

9.3 UDOT Criteria for Noise Abatement

According to the UDOT noise policy, the following abatement measures may be considered when noise impact(s) are identified:

- Alteration of the vertical or horizontal roadway alignment,
- Traffic management measures (truck restrictions or reduction of speed limits),
- Construction of earthen berms, and/or
- Construction of noise barriers.

The UDOT noise policy states that noise abatement can only be provided if determined to be both feasible and reasonable. Feasibility of abatement is based on constructability and engineering considerations. For example, a noise barrier with gaps allowed for driveways would result in inadequate sight distance and visibility constraints and would, therefore, not be feasible. Furthermore, if a noise barrier cannot provide a minimum of 5-dBA noise reduction for at least 75 percent of front-row (adjacent) receivers, it is not considered feasible. Reasonable mitigation implies common sense and good judgment. For example, construction of the noise abatement measure must be cost-effective per receiver benefited. A benefited receiver is defined by UDOT as a receiver predicted to receive a minimum noise reduction of 5 dBA as a result of noise abatement. UDOT noise policy states that the cost per benefited receiver (residents only) must not exceed \$30,000 per resident. The cost of noise abatement for other benefited receivers (parks, places of worship, schools, etc.) must not exceed \$250 per linear foot. There are several factors to consider when determining if abatement is both feasible and reasonable which include the following:

- Noise abatement benefit;
- Land use and Zoning;
- Engineering, Safety, and Maintenance; and
- Cost of abatement.

Figure 3: Noise-sensitive Receivers and Impacted Receivers

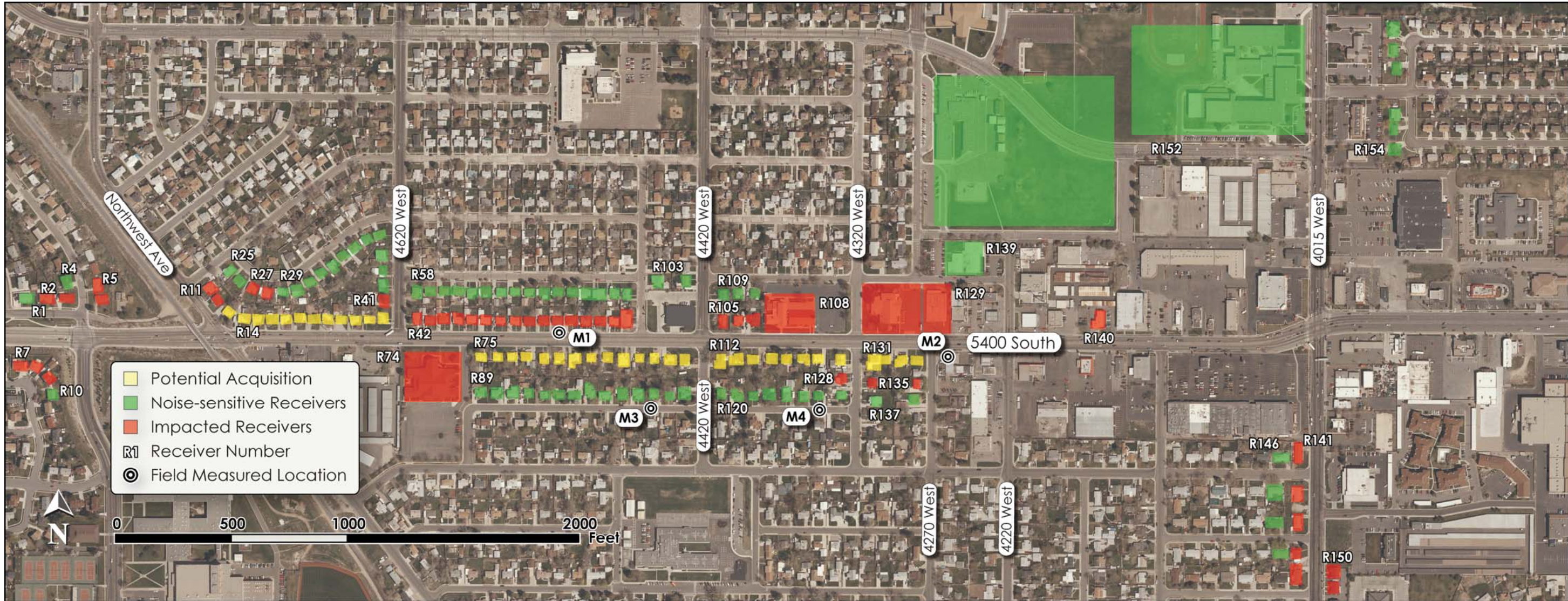


Table 5: Noise Levels at the Modeled Noise-sensitive Receivers

Receiver No.	Number of Receivers by Activity	UDOT NAC (dBA)	Existing 2011 (dBA)	Build Alternative 2040 (dBA)	Difference (+/-) (Existing vs. Build)	Build Noise Impact?
West of Northwest Avenue						
R1	1	66	64	65	+1	No
R2	2	66	65	67	+2	Yes
R4	1	66	63	65	+2	No
R5	2	66	65	67	+2	Yes
R7	3	66	65	66	+1	Yes
R10	1	66	64	65	+1	No
4620 West and Northwest Avenue						
R11	2	66	66	68	+2	Yes
R14	12	66	71	N/A	N/A	N/A
R25	2	66	60	63	+3	No
R27	2	66	61	66	+5	Yes
R29	12	66	60	65	+5	No
R41	1	66	62	66	+4	Yes

Receiver No.	Number of Receivers by Activity	UDOT NAC (dBA)	Existing 2011 (dBA)	Build Alternative 2040 (dBA)	Difference (+/-) (Existing vs. Build)	Build Noise Impact?
4420 West to 4620 West						
R42	16	66	69	71	+2	Yes
R58	16	66	60	63	+3	No
R74	1	66	66	69	+3	Yes
R75	14	66	69	N/A	N/A	N/A
R89	14	66	58	64	+6	No
R103	2	66	59	61	+2	No
4320 West to 4420 West						
R105	3	66	69	71	+2	Yes
R108	1	66	68	70	+2	Yes
R109	3	66	61	63	+2	No
R112	8	66	69	N/A	N/A	N/A
R120	8	66	61	65	+4	No
R128	1	66	62	68	+6	Yes

Receiver No.	Number of Receivers by Activity	UDOT NAC (dBA)	Existing 2011 (dBA)	Build Alternative 2040 (dBA)	Difference (+/-) (Existing vs. Build)	Build Noise Impact?
4015 West to 4320 West						
R129	2	66	67	70	+3	Yes
R131	4	66	70	N/A	N/A	N/A
R135	2	66	61	67	+6	Yes
R137	2	66	59	64	+5	No
R139	1	66	59	62	+3	No
R140	1	66	69	70	+1	Yes
R141	5	66	65	68	+3	Yes
R146	4	66	61	64	+3	No
R150	2	66	65	69	+4	Yes
R152	2	66	50	54	+4	No
R154	6	66	53	57	+4	No
N/A = Potential acquisition						

9.4 Impact Assessment

9.4.1 No Build Alternative

No impacts are anticipated related to noise under the No Build Alternative.

9.4.2 Build Alternative

Under the proposed Build Alternative, traffic volumes and noise along 5400 South are anticipated to increase (**Figure 3** and **Table 5**). However, existing noise levels along 5400 South are already high and the future noise levels are anticipated to increase between 1 and 6 dBA, depending on location. There are 46 noise-sensitive receivers that would experience noise levels that approach or exceed the NAC as a result of the proposed improvements (receivers marked in red on **Figure 3**). Therefore, noise abatement (i.e., mitigation) was considered for these impacted receivers and is discussed below. Potentially, there are 38 noise-sensitive receivers that would be acquired as a result of the Build Alternative (receivers marked in yellow on **Figure 3**). Noise levels were not predicted for these noise-sensitive receivers.

Temporary increases in noise may occur as a result of construction activities for the Build Alternative. Noise levels during construction would depend on the specific construction activity conducted. Construction noise would generally occur during daytime hours when noise levels are typically higher due to everyday activities. UDOT would follow their standard specification for environmental protection related to minimizing construction noise.

9.5 Noise Abatement Measures

For this proposed widening project, noise levels at 46 noise-sensitive receivers would meet or exceed the 66-dBA impact criterion with construction of the Build Alternative (**Figure 3**). Four noise abatement measures were considered for this project:

- Alteration of the vertical roadway alignment,
- Traffic management,
- Earthen berms, and
- Noise barriers.

Alteration of the vertical roadway alignment: Businesses and residents would lose direct access by alteration of the vertical roadway alignment. Additional right-of-way would also have to be acquired, which would not be reasonable and feasible.

Traffic management: Most of the study corridor consists of arterial roadways. The percentage of heavy trucks that utilize these roads is minimal and restricting heavy trucks would not be reasonable. There are signalized intersections and stop signs within the study area that already help to reduce the speed of traffic.

Earthen berms: The study area consists of an urban setting with little undeveloped land. Further, the majority of the existing noise-sensitive receivers are currently adjacent to the roadway. Therefore, earthen berms would have to be placed between 5400 South and the noise-sensitive receiver in order to achieve a substantial noise reduction. However, this would not be reasonable and feasible.

Noise barriers: This is the most common form of noise abatement for transportation projects. Therefore, noise barriers were considered for the impacted noise sensitive receivers.

9.6 Noise Abatement Analysis

Of the 46 impacted noise-sensitive receivers, 29 receivers were dismissed from further consideration because abatement was not deemed feasible. Receiver (R)2, R5, R42, R105, R140, and R141 would require gaps in any proposed noise barriers to allow for driveway access to the properties, rendering the barriers ineffective for noise abatement. Further, placing walls close to access points would result in inadequate sight distance, which would be a safety concern.

The properties associated with R7 are higher in elevation than the roadway, and any barrier proposed would have to be placed near the back of the sidewalk. Therefore, a considerably tall noise barrier would be needed to provide adequate noise reduction, which would not be cost effective and reasonable. R74, R108, and R129 (the three churches in the study area) are facilities that do not provide frequent outdoor use. As such, only the interior noise levels were considered (Category E on Table 1). Following FHWA guidelines established in the Highway Traffic and Noise Analysis and Abatement Policy, the exterior noise levels were decreased by 25 dBA, resulting in predicted interior noise levels of 44 dBA for R74 and 45 dBA for R108 and R129. Since the threshold for considering noise abatement is 51 dBA, mitigation was not considered.

For the remaining receivers, eight-foot high noise barriers were considered in four areas for the outstanding ten impacted noise-sensitive receivers. Three of these areas—R11, R128, and R135—are on 5400 South, and the fourth area—R150—is south of 5400 South on 4015 West. For each area on 5400 South, the barrier was modeled in two different locations: five feet behind the new sidewalk and at the back edge of acquired properties (placing the barriers at the back edge of the acquired properties typically provides a greater noise reduction because the barrier would be closer to the impacted noise-sensitive receiver). For the area on 4015 West, only one modeling location was feasible: along the edge of the UDOT right-of-way. The results of the barrier analysis for the four areas modeled are described below.

- **R11, R27, and R41 (representing five receivers):** The noise barrier modeled five feet behind the new sidewalk provided less than a 1-dBA noise reduction for the two receivers grouped in R11, a 4-dBA noise reduction for the two receivers grouped in R27, and a 2-dBA noise reduction for R41. Therefore, the barrier was not deemed feasible at this location because it would not meet the 5-dBA noise reduction requirement. Although the barrier modeled at the back edge of acquired property would provide at least a 6-dBA noise reduction for the two receivers grouped in R27 and for R41, it would provide less than 1-dBA noise reduction for the two receivers grouped in R11. Therefore, the barrier would not meet the criterion of providing a minimum of 5-dBA noise reduction for at least 75 percent of front-row (adjacent) receivers at this location.
- **R128:** The noise barrier modeled five feet behind the new sidewalk and at the back edge of acquired property only resulted in a 2-dBA noise reduction. Therefore, the barrier was not deemed feasible at either location because it would not meet the 5-dBA noise reduction requirement.
- **R135 (representing two receivers):** The noise barrier modeled five feet behind the new sidewalk provided a 3-dBA noise reduction, and the noise barrier modeled at the back edge of acquired property would provide a 3-dBA noise reduction. Therefore, the barrier was not deemed feasible at either location because it would not meet the 5-dBA noise reduction requirement.
- **R150 (representing two receivers):** The noise barrier modeled at the edge of the UDOT right-of-way only resulted in a 2-dBA noise reduction for R150 and a 5-dBA noise reduction for R151. Therefore, the barrier would not meet the criterion of providing a minimum of 5-dBA noise reduction for at least 75 percent of front-row (adjacent) receivers at this location.

10.0 RECOMMENDATIONS

Noise abatement was not feasible or reasonable in accordance with the UDOT noise policy (UDOT 2010). Therefore, no mitigation is required for noise.

11.0 REFERENCES

- Avenue Consultants. 2011. 5400 South – *Bangerter Highway to 4800 West Traffic Evaluation & Concept Report*.
- Federal Highway Administration (FHWA). 1977. *Insulation of Buildings Against Highway Noise (Tech Share Report No. FHWA-TS-77-202)*. Washington D.C.
- . 1982. *Procedures for Abatement of Highway Traffic Noise and Construction Noise (23 CFR Part 772)*.
- . 1995. *Highway Traffic Noise Analysis and Abatement, Policy and Guidance*.
<<http://www.fhwa.dot.gov/environment/noise/polguide/polguid.pdf>> (accessed February 2011).
- Transportation Research Board, National Research Council. 2000. *Highway Capacity Manual*. Washington D.C.
- Utah Department of Transportation (UDOT). *Utah Noise Policy*.
- . 2009. *Highway Noise Abatement Utah Code (R930-3)*.
- . 2008 and 1998. *Construction Noise and Utah Code (72-6-111 & 112)*.

APPENDIX

Noise Model Inputs and Outputs

Model Inputs for Existing

Model Inputs for Build

Model Outputs for Existing

Model Outputs for Build

Model Outputs with Barriers – standard location

Model Outputs with Barriers – back of acquired property

Model Outputs with Barriers – 4015 West

INPUT: ROADWAYS
5400 South

Jacobs					12 April 2011							
DR					TNM 2.5							
INPUT: ROADWAYS							Average pavement type shall be used unless					
PROJECT/CONTRACT:		5400 South					a State highway agency substantiates the use					
RUN:		existing					of a different type with the approval of FHWA					
Roadway		Points										
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment		
				X	Y	Z	Control	Speed	Percent	Pvmt	On	
							Device	Constraint	Vehicles	Type	Struct?	
									Affected			
	ft			ft	ft	ft		mph	%			
5400 S to 4015 EB inside	11.0	point29	29	1,505,282.5	7,406,942.5	0.00	Signal	0.00	100	Average		
		point960	960	1,505,298.2	7,406,948.0	0.00				Average		
		point958	958	1,505,325.1	7,406,953.5	0.00				Average		
		point30	30	1,505,398.8	7,406,968.0	0.00				Average		
		point31	31	1,505,499.0	7,406,977.0	0.00				Average		
		point32	32	1,505,664.5	7,406,974.0	0.00				Average		
		point33	33	1,505,926.1	7,406,974.5	0.00						
5400 South to 4015 EB middle	11.0	point40	40	1,505,286.5	7,406,932.5	0.00	Signal	0.00	100	Average		
		point961	961	1,505,299.4	7,406,936.5	0.00				Average		
		point959	959	1,505,324.9	7,406,941.5	0.00				Average		
		point41	41	1,505,400.1	7,406,958.0	0.00				Average		
		point42	42	1,505,499.4	7,406,967.0	0.00				Average		
		point43	43	1,505,664.4	7,406,964.0	0.00				Average		
		point44	44	1,505,946.5	7,406,962.5	0.00						
5400 S WB to 4120 outside	11.0	point293	293	1,505,340.1	7,406,997.0	0.00	Signal	0.00	100	Average		
		point956	956	1,505,324.4	7,406,994.5	0.00				Average		
		point682	682	1,505,299.9	7,406,988.0	0.00				Average		
		point955	955	1,505,223.6	7,406,960.5	0.00				Average		
		point294	294	1,505,150.5	7,406,934.0	0.00				Average		
		point295	295	1,505,077.0	7,406,920.5	0.00				Average		
		point296	296	1,505,005.4	7,406,915.5	0.00				Average		
		point297	297	1,504,638.1	7,406,916.5	0.00						
5400 S to 4120 WB inside	11.0	point300	300	1,505,342.0	7,406,987.0	0.00	Signal	0.00	100	Average		
		point957	957	1,505,324.2	7,406,983.5	0.00				Average		
		point683	683	1,505,298.6	7,406,976.5	0.00				Average		

INPUT: ROADWAYS
5400 South

		point301	301	1,505,147.9	7,406,920.0	0.00				Average	
		point302	302	1,505,074.1	7,406,910.0	0.00				Average	
		point303	303	1,505,014.8	7,406,905.0	0.00				Average	
		point304	304	1,504,638.1	7,406,906.5	0.00					
5400 S to 4220 EB inside	11.0	point315	315	1,503,957.8	7,406,888.5	0.00	Signal	0.00	100	Average	
		point951	951	1,503,969.4	7,406,888.0	0.00				Average	
		point950	950	1,503,993.2	7,406,888.0	0.00				Average	
		point316	316	1,504,640.8	7,406,883.5	0.00					
5400 S to 4220 EB outside	11.0	point322	322	1,503,956.1	7,406,878.5	0.00	Signal	0.00	100	Average	
		point953	953	1,503,967.0	7,406,878.0	0.00				Average	
		point952	952	1,503,992.4	7,406,878.0	0.00				Average	
		point323	323	1,504,640.8	7,406,873.5	0.00					
4220 W NB	10.0	point340	340	1,503,990.6	7,405,606.5	0.00				Average	
		point341	341	1,503,991.9	7,406,865.0	0.00					
4220 W SB right	10.0	point348	348	1,503,970.9	7,407,327.0	0.00				Average	
		point349	349	1,503,970.4	7,406,930.5	0.00					
5400 S to 4270 WB outside	11.0	point350	350	1,504,011.6	7,406,919.5	0.00	Signal	0.00	100	Average	
		point944	944	1,503,997.6	7,406,919.0	0.00				Average	
		point946	946	1,503,970.0	7,406,919.5	0.00				Average	
		point945	945	1,503,816.5	7,406,921.0	0.00				Average	
		point351	351	1,503,635.2	7,406,923.0	0.00					
5400 S to 4270 WB inside	11.0	point353	353	1,504,012.2	7,406,910.0	0.00	Signal	0.00	100	Average	
		point949	949	1,503,997.4	7,406,910.0	0.00				Average	
		point948	948	1,503,969.6	7,406,910.0	0.00				Average	
		point947	947	1,503,825.8	7,406,910.5	0.00				Average	
		point354	354	1,503,639.1	7,406,911.0	0.00					
5400 S to 4320 EB inside	11.0	point356	356	1,503,307.2	7,406,892.5	0.00				Average	
		point935	935	1,503,320.5	7,406,892.0	0.00				Average	
		point937	937	1,503,334.1	7,406,892.0	0.00				Average	
		point357	357	1,503,649.6	7,406,890.5	0.00					
5400 S to 4320 EB outside	11.0	point359	359	1,503,305.6	7,406,883.5	0.00				Average	
		point936	936	1,503,320.2	7,406,883.5	0.00				Average	
		point938	938	1,503,333.6	7,406,884.0	0.00				Average	
		point360	360	1,503,649.5	7,406,880.5	0.00					
5400 S to 4420 WB outside	11.0	point362	362	1,503,348.6	7,406,923.5	0.00				Average	
		point929	929	1,503,336.5	7,406,923.5	0.00				Average	
		point927	927	1,503,320.9	7,406,923.5	0.00				Average	
		point926	926	1,503,007.8	7,406,927.0	0.00				Average	
		point363	363	1,502,677.9	7,406,930.0	0.00					

INPUT: ROADWAYS
5400 South

5400 S to 4420 WB inside	11.0	point364	364	1,503,349.0	7,406,913.0	0.00				Average	
		point930	930	1,503,335.4	7,406,912.5	0.00				Average	
		point928	928	1,503,320.2	7,406,913.0	0.00				Average	
		point925	925	1,503,007.6	7,406,915.5	0.00				Average	
		point365	365	1,502,677.9	7,406,918.0	0.00					
5400 S to 4420 EB inside	11.0	point367	367	1,502,658.1	7,406,897.5	0.00				Average	
		point898	898	1,502,677.5	7,406,896.5	0.00				Average	
		point366	366	1,503,307.2	7,406,892.5	0.00					
5400 S to 4420 EB outside	11.0	point369	369	1,502,657.8	7,406,887.5	0.00				Average	
		point897	897	1,502,677.8	7,406,887.5	0.00				Average	
		point368	368	1,503,305.6	7,406,883.5	0.00					
4420 W NB	10.0	point373	373	1,502,674.6	7,406,635.5	0.00	Stop	0.00	100	Average	
		point372	372	1,502,677.4	7,406,876.5	0.00					
4420 W SB	10.0	point377	377	1,502,659.0	7,408,198.0	0.00	Signal	0.00	100	Average	
		point376	376	1,502,659.0	7,406,942.0	0.00					
5400S to 4460 WB outside	11.0	point385	385	1,502,677.9	7,406,930.0	0.00				Average	
		point894	894	1,502,658.8	7,406,930.5	0.00				Average	
		point384	384	1,502,398.5	7,406,931.0	0.00					
5400 S to Northwest WB outside	11.0	point386	386	1,501,355.4	7,406,938.0	0.00				Average	
		point387	387	1,500,623.1	7,406,945.0	0.00					
5400 S to 4460 WB inside	11.0	point388	388	1,502,677.9	7,406,918.0	0.00				Average	
		point895	895	1,502,658.4	7,406,918.0	0.00				Average	
		point389	389	1,502,398.4	7,406,921.0	0.00					
5400 S to Northwest EB inside	11.0	point393	393	1,500,580.2	7,406,911.5	0.00	Signal	0.00	100	Average	
		point924	924	1,500,599.4	7,406,911.0	0.00				Average	
		point923	923	1,500,628.4	7,406,911.0	0.00				Average	
		point394	394	1,500,818.8	7,406,909.0	0.00				Average	
		point395	395	1,501,350.6	7,406,907.0	0.00					
5400 S to Northwest EB outside	11.0	point398	398	1,500,576.2	7,406,900.5	0.00	Signal	0.00	100	Average	
		point918	918	1,500,608.1	7,406,900.0	0.00				Average	
		point917	917	1,500,637.5	7,406,900.0	0.00				Average	
		point399	399	1,500,818.6	7,406,899.0	0.00				Average	
		point400	400	1,501,350.6	7,406,897.0	0.00					
5400 S to 4800 WB outside	11.0	point424	424	1,500,623.1	7,406,945.0	0.00	Signal	0.00	100	Average	
		point920	920	1,500,602.8	7,406,944.5	0.00				Average	
		point919	919	1,500,573.9	7,406,944.0	0.00				Average	
		point425	425	1,500,378.0	7,406,943.0	0.00				Average	
		point426	426	1,500,202.2	7,406,937.0	0.00				Average	
		point427	427	1,500,012.5	7,406,942.0	0.00					

INPUT: ROADWAYS
5400 South

5400 S to 4800 WB inside	11.0	point428	428	1,500,627.0	7,406,934.5	0.00	Signal	0.00	100	Average	
		point922	922	1,500,609.9	7,406,935.0	0.00				Average	
		point921	921	1,500,581.0	7,406,935.0	0.00				Average	
		point429	429	1,500,378.2	7,406,933.0	0.00				Average	
		point430	430	1,500,202.2	7,406,927.0	0.00				Average	
		point431	431	1,500,011.9	7,406,931.5	0.00					
5400 S 4800 EB	11.0	point438	438	1,499,965.4	7,406,911.5	0.00	Signal	0.00	100	Average	
		point910	910	1,499,978.2	7,406,911.5	0.00				Average	
		point909	909	1,500,002.8	7,406,911.0	0.00				Average	
		point439	439	1,500,205.9	7,406,907.0	0.00				Average	
		point440	440	1,500,381.9	7,406,910.0	0.00				Average	
		point441	441	1,500,580.2	7,406,911.5	0.00					
5400 S to 4800 EB outside	11.0	point442	442	1,499,964.8	7,406,902.5	0.00	Signal	0.00	100	Average	
		point912	912	1,499,979.2	7,406,902.0	0.00				Average	
		point911	911	1,500,003.8	7,406,901.5	0.00				Average	
		point443	443	1,500,205.8	7,406,897.0	0.00				Average	
		point444	444	1,500,382.0	7,406,900.0	0.00				Average	
		point445	445	1,500,576.2	7,406,900.5	0.00					
4800 W NB	11.0	point465	465	1,500,124.6	7,406,348.5	0.00				Average	
		point466	466	1,500,108.0	7,406,412.5	0.00				Average	
		point467	467	1,500,072.4	7,406,484.0	0.00				Average	
		point468	468	1,500,044.0	7,406,545.0	0.00				Average	
		point469	469	1,500,023.8	7,406,597.0	0.00				Average	
		point470	470	1,500,008.0	7,406,680.5	0.00				Average	
		point471	471	1,500,007.9	7,406,702.5	0.00				Average	
		point472	472	1,500,004.0	7,406,886.0	0.00					
4800 W SB	11.0	point480	480	1,499,275.2	7,408,129.5	0.00				Average	
		point481	481	1,499,891.6	7,407,348.0	0.00				Average	
		point482	482	1,499,921.6	7,407,304.5	0.00				Average	
		point483	483	1,499,967.0	7,407,204.5	0.00				Average	
		point484	484	1,499,980.1	7,407,158.0	0.00				Average	
		point485	485	1,499,987.1	7,407,083.5	0.00				Average	
		point486	486	1,499,987.1	7,407,034.0	0.00				Average	
		point487	487	1,499,981.2	7,406,957.5	0.00					
5400 S west end	11.0	point495	495	1,500,012.5	7,406,942.0	0.00	Signal	0.00	100	Average	
		point905	905	1,500,002.5	7,406,942.5	0.00				Average	
		point908	908	1,499,980.2	7,406,943.5	0.00				Average	
		point497	497	1,499,702.6	7,406,948.5	0.00				Average	
		point498	498	1,499,611.2	7,406,953.5	0.00				Average	

INPUT: ROADWAYS
5400 South

		point499	499	1,499,565.4	7,406,959.5	0.00				Average	
		point500	500	1,499,520.6	7,406,970.0	0.00				Average	
		point501	501	1,499,358.6	7,407,025.5	0.00				Average	
		point502	502	1,499,263.2	7,407,037.0	0.00				Average	
		point503	503	1,498,761.0	7,407,046.5	0.00					
5400 S WB west end inside	11.0	point504	504	1,500,011.9	7,406,931.5	0.00	Signal	0.00	100	Average	
		point906	906	1,500,002.6	7,406,931.5	0.00				Average	
		point907	907	1,499,979.1	7,406,931.5	0.00				Average	
		point506	506	1,499,701.8	7,406,939.0	0.00				Average	
		point507	507	1,499,610.6	7,406,943.5	0.00				Average	
		point508	508	1,499,568.0	7,406,949.0	0.00				Average	
		point509	509	1,499,522.0	7,406,959.0	0.00				Average	
		point510	510	1,499,356.2	7,407,014.0	0.00				Average	
		point511	511	1,499,263.2	7,407,025.0	0.00				Average	
		point512	512	1,498,765.2	7,407,030.0	0.00					
5400 S west end EB	11.0	point513	513	1,498,764.5	7,407,011.0	0.00				Average	
		point514	514	1,499,261.0	7,407,003.5	0.00				Average	
		point515	515	1,499,353.1	7,406,989.5	0.00				Average	
		point516	516	1,499,515.9	7,406,936.5	0.00				Average	
		point517	517	1,499,564.4	7,406,925.0	0.00				Average	
		point518	518	1,499,609.5	7,406,920.0	0.00				Average	
		point519	519	1,499,701.4	7,406,915.0	0.00				Average	
		point521	521	1,499,965.4	7,406,911.5	0.00					
5400 S EB west end outside	11.0	point522	522	1,498,765.1	7,406,997.0	0.00				Average	
		point523	523	1,499,261.5	7,406,992.5	0.00				Average	
		point524	524	1,499,351.6	7,406,979.5	0.00				Average	
		point525	525	1,499,514.5	7,406,927.5	0.00				Average	
		point526	526	1,499,565.2	7,406,915.5	0.00				Average	
		point527	527	1,499,609.1	7,406,910.0	0.00				Average	
		point528	528	1,499,702.5	7,406,905.5	0.00				Average	
		point530	530	1,499,964.8	7,406,902.5	0.00					
Northwest SB	11.0	point547	547	1,500,147.5	7,408,162.5	0.00	Stop	0.00	100	Average	
		point1032	1032	1,500,145.8	7,407,633.5	0.00				Average	
		point1037	1037	1,500,259.5	7,407,353.5	0.00				Average	
		point548	548	1,500,424.6	7,407,135.5	0.00				Average	
		point549	549	1,500,570.0	7,406,949.5	0.00					
Northwest NB	11.0	point555	555	1,501,143.2	7,406,247.5	0.00				Average	
		point553	553	1,500,648.9	7,406,885.5	0.00					
4620 W SB	10.0	point556	556	1,501,346.2	7,408,185.0	0.00	Signal	0.00	100	Average	

INPUT: ROADWAYS
5400 South

		point557	557	1,501,344.2	7,406,955.5	0.00					
4620 W NB	10.0	point558	558	1,501,366.5	7,406,956.0	0.00	Stop	0.00	100	Average	
		point559	559	1,501,369.9	7,408,203.0	0.00					
4460 W SB	10.0	point560	560	1,502,388.5	7,407,646.5	0.00	Stop	0.00	100	Average	
		point561	561	1,502,392.0	7,406,946.0	0.00					
4460 W NB	10.0	point565	565	1,502,407.1	7,406,943.5	0.00	Stop	0.00	100	Average	
		point564	564	1,502,408.6	7,407,648.0	0.00					
4120 W SB	10.0	point830	830	1,504,630.4	7,406,864.5	0.00	Stop	0.00	100	Average	
		point831	831	1,504,629.9	7,405,641.5	0.00					
4120 W NB	10.0	point833	833	1,504,648.6	7,405,637.0	0.00				Average	
		point832	832	1,504,647.5	7,406,862.0	0.00					
4270 W SB	10.0	point834	834	1,503,643.9	7,406,865.0	0.00	Stop	0.00	100	Average	
		point835	835	1,503,641.5	7,405,618.0	0.00					
4270 W NB	10.0	point837	837	1,503,658.1	7,405,602.0	0.00				Average	
		point836	836	1,503,659.0	7,406,865.5	0.00					
5400 S WB to 4220 outside	11.0	point838	838	1,504,638.1	7,406,916.5	0.00				Average	
		point299	299	1,504,011.6	7,406,919.5	0.00					
5400 S to 4220 WB inside	11.0	point839	839	1,504,638.1	7,406,906.5	0.00				Average	
		point305	305	1,504,045.1	7,406,910.5	0.00				Average	
		point306	306	1,504,012.2	7,406,910.0	0.00					
5400 S to 4120 EB inside	11.0	point840	840	1,504,640.8	7,406,883.5	0.00				Average	
		point317	317	1,504,994.6	7,406,880.0	0.00				Average	
		point318	318	1,505,065.8	7,406,881.5	0.00				Average	
		point319	319	1,505,111.1	7,406,886.0	0.00				Average	
		point320	320	1,505,159.1	7,406,897.5	0.00				Average	
		point321	321	1,505,282.5	7,406,942.5	0.00					
5400 S to 4120 EB outside	11.0	point841	841	1,504,640.8	7,406,873.5	0.00				Average	
		point324	324	1,504,994.8	7,406,870.0	0.00				Average	
		point325	325	1,505,066.9	7,406,871.5	0.00				Average	
		point326	326	1,505,115.9	7,406,877.0	0.00				Average	
		point327	327	1,505,161.6	7,406,888.0	0.00				Average	
		point328	328	1,505,286.5	7,406,932.5	0.00					
5400 S to 4320 WB outside	11.0	point842	842	1,503,635.2	7,406,923.0	0.00				Average	
		point352	352	1,503,348.6	7,406,923.5	0.00					
5400 S to 4320 WB inside	11.0	point843	843	1,503,639.1	7,406,911.0	0.00				Average	
		point355	355	1,503,349.0	7,406,913.0	0.00					
5400 S to 4270 EB inside	11.0	point844	844	1,503,649.6	7,406,890.5	0.00				Average	
		point358	358	1,503,957.8	7,406,888.5	0.00					
5400 S to 4270 EB outside	11.0	point845	845	1,503,649.5	7,406,880.5	0.00				Average	

INPUT: ROADWAYS
5400 South

		point361	361	1,503,956.1	7,406,878.5	0.00					
4320 W SB	10.0	point850	850	1,503,289.4	7,408,149.5	0.00	Signal	0.00	100	Average	
		point851	851	1,503,321.6	7,406,937.0	0.00					
5400S to 4620 WB outside	11.0	point856	856	1,502,398.5	7,406,931.0	0.00				Average	
		point383	383	1,501,354.4	7,406,938.0	0.00					
5400 S to 4620 WB inside	11.0	point857	857	1,502,398.4	7,406,921.0	0.00				Average	
		point390	390	1,501,354.4	7,406,929.0	0.00					
5400 S to 4460 EB inside	11.0	point858	858	1,502,398.6	7,406,901.0	0.00				Average	
		point397	397	1,502,658.1	7,406,897.5	0.00					
5400 S to 4460 EB outside	11.0	point859	859	1,502,398.6	7,406,891.0	0.00				Average	
		point402	402	1,502,657.8	7,406,887.5	0.00					
5400 S to Northwest WB inside	11.0	point860	860	1,501,354.4	7,406,929.0	0.00				Average	
		point392	392	1,500,627.0	7,406,934.5	0.00					
5400 S to 4620 W EB inside	11.0	point861	861	1,501,350.6	7,406,907.0	0.00				Average	
		point396	396	1,502,398.6	7,406,901.0	0.00					
5400 S to 4620 EB outside	11.0	point862	862	1,501,350.6	7,406,897.0	0.00				Average	
		point401	401	1,502,398.6	7,406,891.0	0.00					
4420 W SB-2	10.0	point747	747	1,502,659.0	7,406,942.0	0.00	Stop	0.00	100	Average	
		point749	749	1,502,658.8	7,406,930.5	0.00				Average	
		point750	750	1,502,658.4	7,406,918.0	0.00					
4420 W SB-2	10.0	point751	751	1,502,658.4	7,406,918.0	0.00				Average	
		point748	748	1,502,658.1	7,406,897.5	0.00				Average	
		point896	896	1,502,657.8	7,406,887.5	0.00				Average	
		point374	374	1,502,658.8	7,406,636.0	0.00					
4420 W NB-2	10.0	point900	900	1,502,677.4	7,406,876.5	0.00	Stop	0.00	100	Average	
		point901	901	1,502,677.8	7,406,887.5	0.00				Average	
		point902	902	1,502,677.5	7,406,896.5	0.00				Average	
		point903	903	1,502,677.9	7,406,918.0	0.00				Average	
		point754	754	1,502,677.9	7,406,930.0	0.00				Average	
		point370	370	1,502,686.0	7,408,198.5	0.00					
4800 W NB-2	11.0	point809	809	1,500,004.0	7,406,886.0	0.00	Signal	0.00	100	Average	
		point915	915	1,500,003.8	7,406,901.5	0.00				Average	
		point914	914	1,500,002.8	7,406,911.0	0.00				Average	
		point811	811	1,500,002.6	7,406,931.5	0.00				Average	
		point806	806	1,500,002.5	7,406,942.5	0.00				Average	
		point473	473	1,500,003.1	7,407,032.0	0.00				Average	
		point474	474	1,500,000.2	7,407,085.0	0.00				Average	
		point475	475	1,499,990.0	7,407,159.5	0.00				Average	
		point476	476	1,499,976.4	7,407,208.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point477	477	1,499,930.4	7,407,309.5	0.00				Average	
		point478	478	1,499,899.6	7,407,354.0	0.00				Average	
		point479	479	1,499,283.1	7,408,135.5	0.00					
4800 W SB-2	11.0	point567	567	1,499,981.2	7,406,957.5	0.00	Signal	0.00	100	Average	
		point916	916	1,499,980.2	7,406,943.5	0.00				Average	
		point824	824	1,499,979.1	7,406,931.5	0.00				Average	
		point825	825	1,499,978.2	7,406,911.5	0.00				Average	
		point823	823	1,499,979.2	7,406,902.0	0.00				Average	
		point488	488	1,499,975.9	7,406,729.5	0.00				Average	
		point489	489	1,499,978.9	7,406,656.5	0.00				Average	
		point490	490	1,499,993.4	7,406,602.5	0.00				Average	
		point491	491	1,500,013.4	7,406,545.5	0.00				Average	
		point492	492	1,500,055.4	7,406,459.0	0.00				Average	
		point493	493	1,500,073.1	7,406,419.0	0.00				Average	
		point494	494	1,500,093.9	7,406,359.5	0.00					
Northwest Ave SB - 2	11.0	point772	772	1,500,570.0	7,406,949.5	0.00	Signal	0.00	100	Average	
		point773	773	1,500,573.9	7,406,944.0	0.00				Average	
		point787	787	1,500,581.0	7,406,935.0	0.00				Average	
		point774	774	1,500,599.4	7,406,911.0	0.00				Average	
		point771	771	1,500,608.1	7,406,900.0	0.00				Average	
		point550	550	1,501,135.4	7,406,229.5	0.00					
Northwest NB-2	11.0	point790	790	1,500,648.9	7,406,885.5	0.00	Signal	0.00	100	Average	
		point791	791	1,500,637.5	7,406,900.0	0.00				Average	
		point792	792	1,500,628.4	7,406,911.0	0.00				Average	
		point796	796	1,500,609.9	7,406,935.0	0.00				Average	
		point789	789	1,500,602.8	7,406,944.5	0.00				Average	
		point552	552	1,500,437.2	7,407,154.0	0.00				Average	
		point1038	1038	1,500,271.0	7,407,377.0	0.00				Average	
		point1031	1031	1,500,169.4	7,407,636.5	0.00				Average	
		point551	551	1,500,173.5	7,408,165.0	0.00					
4320 W NB-2	10.0	point941	941	1,503,332.4	7,406,872.5	0.00	Stop	0.00	100	Average	
		point871	871	1,503,333.6	7,406,884.0	0.00				Average	
		point942	942	1,503,334.1	7,406,892.0	0.00				Average	
		point943	943	1,503,335.4	7,406,912.5	0.00				Average	
		point854	854	1,503,336.5	7,406,923.5	0.00				Average	
		point849	849	1,503,315.2	7,408,140.0	0.00					
4220 W SB-2	10.0	point569	569	1,503,970.4	7,406,930.5	0.00	Signal	0.00	100	Average	
		point724	724	1,503,970.0	7,406,919.5	0.00				Average	
		point726	726	1,503,969.6	7,406,910.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point728	728	1,503,969.4	7,406,888.0	0.00				Average	
		point723	723	1,503,967.0	7,406,878.0	0.00				Average	
		point347	347	1,503,960.4	7,405,634.0	0.00					
4220 W NB-2	10.0	point568	568	1,503,991.9	7,406,865.0	0.00	Signal	0.00	100	Average	
		point342	342	1,503,992.4	7,406,878.0	0.00				Average	
		point717	717	1,503,993.2	7,406,888.0	0.00				Average	
		point954	954	1,503,997.4	7,406,910.0	0.00				Average	
		point716	716	1,503,997.6	7,406,919.0	0.00				Average	
		point343	343	1,503,995.0	7,407,331.5	0.00					
5460 S west side WB	10.0	point1003	1003	1,502,650.2	7,406,623.0	0.00	Stop	0.00	100	Average	
		point1002	1002	1,501,653.5	7,406,622.5	0.00					
5460 S west side EB	10.0	point1006	1006	1,501,653.5	7,406,614.0	0.00	Stop	0.00	100	Average	
		point1007	1007	1,502,648.9	7,406,614.5	0.00					
4420 W NB-3	10.0	point1011	1011	1,502,675.5	7,406,392.0	0.00	Stop	0.00	100	Average	
		point1010	1010	1,502,675.1	7,406,608.0	0.00					
4420 W SB-3	10.0	point1012	1012	1,502,659.1	7,406,608.5	0.00	Stop	0.00	100	Average	
		point1013	1013	1,502,659.1	7,406,394.5	0.00					
5460 S east side WB	10.0	point1004	1004	1,503,312.5	7,406,613.0	0.00	Stop	0.00	100	Average	
		point1018	1018	1,502,681.5	7,406,622.5	0.00					
5460 S east side EB	10.0	point1019	1019	1,502,681.4	7,406,614.5	0.00	Stop	0.00	100	Average	
		point1008	1008	1,503,316.8	7,406,605.5	0.00					
4320 W NB-2	10.0	point1017	1017	1,503,334.6	7,406,409.5	0.00	Stop	0.00	100	Average	
		point846	846	1,503,333.5	7,406,751.0	0.00				Average	
		point847	847	1,503,332.4	7,406,872.5	0.00					
4320 W SB-2	10.0	point855	855	1,503,321.6	7,406,937.0	0.00	Stop	0.00	100	Average	
		point931	931	1,503,320.9	7,406,923.5	0.00				Average	
		point932	932	1,503,320.2	7,406,913.0	0.00				Average	
		point934	934	1,503,320.4	7,406,905.0	0.00				Average	
		point933	933	1,503,320.5	7,406,892.0	0.00				Average	
		point866	866	1,503,320.2	7,406,883.5	0.00				Average	
		point1014	1014	1,503,320.8	7,406,748.0	0.00				Average	
		point1015	1015	1,503,319.0	7,406,414.5	0.00					
5400 South to 4015 EB outside-4015 W NB rig	11.0	point270	270	1,505,335.2	7,406,780.5	0.00	Signal	0.00	100	Average	
		point1024	1024	1,505,332.4	7,406,899.5	0.00				Average	
		point52	52	1,505,338.5	7,406,931.0	0.00				Average	
		point53	53	1,505,398.8	7,406,945.0	0.00				Average	
		point54	54	1,505,497.0	7,406,953.5	0.00				Average	
		point55	55	1,505,661.5	7,406,951.0	0.00				Average	
		point56	56	1,505,923.2	7,406,951.0	0.00					

INPUT: ROADWAYS
5400 South

5400 South to 4015 WB outside-2	11.0	point8	8	1,505,933.1	7,407,024.0	0.00				Average	
		point7	7	1,505,490.1	7,407,027.0	0.00				Average	
		point6	6	1,505,364.6	7,407,027.5	0.00				Average	
		point5	5	1,505,335.8	7,407,038.0	0.00					
5400 South to 4015 WB middle-2	11.0	point16	16	1,505,942.5	7,407,012.0	0.00				Average	
		point15	15	1,505,498.4	7,407,012.5	0.00				Average	
		point14	14	1,505,416.2	7,407,009.0	0.00				Average	
		point13	13	1,505,340.1	7,406,997.0	0.00					
5400 S to 4015 WB inside-2	11.0	point24	24	1,505,941.1	7,406,999.0	0.00				Average	
		point23	23	1,505,498.0	7,407,001.5	0.00				Average	
		point22	22	1,505,417.6	7,406,997.5	0.00				Average	
		point21	21	1,505,342.0	7,406,987.0	0.00					
4015 W median turn-2	12.0	point1039	1039	1,505,300.0	7,405,355.0	0.00				Average	
		point1040	1040	1,505,306.5	7,405,984.5	0.00				Average	
		point1041	1041	1,505,308.9	7,406,258.5	0.00				Average	
		point1042	1042	1,505,309.6	7,406,927.5	0.00					
4015 W median turn	12.0	point1043	1043	1,505,312.5	7,407,008.0	0.00				Average	
		point1062	1062	1,505,312.2	7,407,345.0	0.00				Average	
		point1044	1044	1,505,311.2	7,407,425.0	0.00				Average	
		point1045	1045	1,505,312.4	7,407,472.5	0.00				Average	
		point1046	1046	1,505,313.6	7,407,661.0	0.00				Average	
		point1047	1047	1,505,314.5	7,407,793.0	0.00				Average	
		point1048	1048	1,505,316.0	7,407,954.5	0.00				Average	
		point1049	1049	1,505,316.9	7,408,125.0	0.00					
4015 W NB-2	11.0	point702	702	1,505,324.4	7,406,928.0	0.00	Signal	0.00	100	Average	
		point704	704	1,505,324.9	7,406,941.5	0.00				Average	
		point705	705	1,505,325.1	7,406,953.5	0.00				Average	
		point706	706	1,505,324.2	7,406,983.5	0.00				Average	
		point701	701	1,505,324.4	7,406,994.5	0.00				Average	
		point1058	1058	1,505,324.6	7,407,802.5	0.00				Average	
		point1059	1059	1,505,325.4	7,407,849.0	0.00				Average	
		point1060	1060	1,505,328.1	7,408,007.5	0.00				Average	
		point1061	1061	1,505,327.4	7,408,123.5	0.00					
4015 W SB	11.0	point1057	1057	1,505,306.0	7,408,123.0	0.00				Average	
		point1056	1056	1,505,305.1	7,408,029.5	0.00				Average	
		point1055	1055	1,505,303.5	7,407,869.5	0.00				Average	
		point278	278	1,505,305.9	7,407,800.5	0.00				Average	
		point279	279	1,505,299.9	7,407,000.0	0.00					
4015 W SB-2	14.0	point693	693	1,505,299.9	7,407,000.0	0.00	Signal	0.00	100	Average	

INPUT: ROADWAYS**5400 South**

		point694	694	1,505,299.9	7,406,988.0	0.00				Average	
		point695	695	1,505,298.6	7,406,976.5	0.00				Average	
		point699	699	1,505,298.2	7,406,948.0	0.00				Average	
		point692	692	1,505,299.4	7,406,936.5	0.00				Average	
		point1050	1050	1,505,296.1	7,405,935.0	0.00				Average	
		point1051	1051	1,505,287.2	7,405,355.0	0.00					
4015 W NB	14.0	point1053	1053	1,505,315.1	7,405,355.0	0.00				Average	
		point272	272	1,505,321.2	7,405,918.0	0.00				Average	
		point275	275	1,505,324.4	7,406,928.0	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

Jacobs												
DR												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	5400 South											
RUN:	existing											
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
5400 S to 4015 EB inside	point29	29	745	45	7	45	8	45	0	0	0	0
	point960	960	745	45	7	45	8	45	0	0	0	0
	point958	958	745	45	7	45	8	45	0	0	0	0
	point30	30	745	45	7	45	8	45	0	0	0	0
	point31	31	745	45	7	45	8	45	0	0	0	0
	point32	32	745	45	7	45	8	45	0	0	0	0
	point33	33										
5400 South to 4015 EB middle	point40	40	745	45	7	45	8	45	0	0	0	0
	point961	961	745	45	7	45	8	45	0	0	0	0
	point959	959	745	45	7	45	8	45	0	0	0	0
	point41	41	745	45	7	45	8	45	0	0	0	0
	point42	42	745	45	7	45	8	45	0	0	0	0
	point43	43	745	45	7	45	8	45	0	0	0	0
	point44	44										
5400 S WB to 4120 outside	point293	293	721	40	7	40	7	40	0	0	0	0
	point956	956	721	40	7	40	7	40	0	0	0	0
	point682	682	721	40	7	40	7	40	0	0	0	0
	point955	955	721	40	7	40	7	40	0	0	0	0
	point294	294	721	40	7	40	7	40	0	0	0	0
	point295	295	721	40	7	40	7	40	0	0	0	0
	point296	296	721	40	7	40	7	40	0	0	0	0
	point297	297										
5400 S to 4120 WB inside	point300	300	721	40	7	40	7	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point957	957	721	40	7	40	7	40	0	0	0	0
	point683	683	721	40	7	40	7	40	0	0	0	0
	point301	301	721	40	7	40	7	40	0	0	0	0
	point302	302	721	40	7	40	7	40	0	0	0	0
	point303	303	721	40	7	40	7	40	0	0	0	0
	point304	304										
5400 S to 4220 EB inside	point315	315	721	40	7	40	7	40	0	0	0	0
	point951	951	721	40	7	40	7	40	0	0	0	0
	point950	950	721	40	7	40	7	40	0	0	0	0
	point316	316										
5400 S to 4220 EB outside	point322	322	721	40	7	40	7	40	0	0	0	0
	point953	953	721	40	7	40	7	40	0	0	0	0
	point952	952	721	40	7	40	7	40	0	0	0	0
	point323	323										
4220 W NB	point340	340	184	30	2	30	2	30	0	0	0	0
	point341	341										
4220 W SB right	point348	348	168	30	2	30	2	30	0	0	0	0
	point349	349										
5400 S to 4270 WB outside	point350	350	721	40	7	40	7	40	0	0	0	0
	point944	944	721	40	7	40	7	40	0	0	0	0
	point946	946	721	40	7	40	7	40	0	0	0	0
	point945	945	721	40	7	40	7	40	0	0	0	0
	point351	351										
5400 S to 4270 WB inside	point353	353	721	40	7	40	7	40	0	0	0	0
	point949	949	721	40	7	40	7	40	0	0	0	0
	point948	948	721	40	7	40	7	40	0	0	0	0
	point947	947	721	40	7	40	7	40	0	0	0	0
	point354	354										
5400 S to 4320 EB inside	point356	356	721	40	7	40	7	40	0	0	0	0
	point935	935	721	40	7	40	7	40	0	0	0	0
	point937	937	721	40	7	40	7	40	0	0	0	0
	point357	357										
5400 S to 4320 EB outside	point359	359	721	40	7	40	7	40	0	0	0	0
	point936	936	721	40	7	40	7	40	0	0	0	0
	point938	938	721	40	7	40	7	40	0	0	0	0
	point360	360										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

5400 S to 4420 WB outside	point362	362	721	40	7	40	7	40	0	0	0	0
	point929	929	721	40	7	40	7	40	0	0	0	0
	point927	927	721	40	7	40	7	40	0	0	0	0
	point926	926	721	40	7	40	7	40	0	0	0	0
	point363	363										
5400 S to 4420 WB inside	point364	364	721	40	7	40	7	40	0	0	0	0
	point930	930	721	40	7	40	7	40	0	0	0	0
	point928	928	721	40	7	40	7	40	0	0	0	0
	point925	925	721	40	7	40	7	40	0	0	0	0
	point365	365										
5400 S to 4420 EB inside	point367	367	721	40	7	40	7	40	0	0	0	0
	point898	898	721	40	7	40	7	40	0	0	0	0
	point366	366										
5400 S to 4420 EB outside	point369	369	721	40	7	40	7	40	0	0	0	0
	point897	897	721	40	7	40	7	40	0	0	0	0
	point368	368										
4420 W NB	point373	373	21	25	0	0	0	0	0	0	0	0
	point372	372										
4420 W SB	point377	377	110	25	1	25	1	25	0	0	0	0
	point376	376										
5400S to 4460 WB outside	point385	385	721	40	7	40	7	40	0	0	0	0
	point894	894	721	40	7	40	7	40	0	0	0	0
	point384	384										
5400 S to Northwest WB outside	point386	386	721	40	7	40	7	40	0	0	0	0
	point387	387										
5400 S to 4460 WB inside	point388	388	721	40	7	40	7	40	0	0	0	0
	point895	895	721	40	7	40	7	40	0	0	0	0
	point389	389										
5400 S to Northwest EB inside	point393	393	721	40	7	40	7	40	0	0	0	0
	point924	924	721	40	7	40	7	40	0	0	0	0
	point923	923	721	40	7	40	7	40	0	0	0	0
	point394	394	721	40	7	40	7	40	0	0	0	0
	point395	395										
5400 S to Northwest EB outside	point398	398	721	40	7	40	7	40	0	0	0	0
	point918	918	721	40	7	40	7	40	0	0	0	0
	point917	917	721	40	7	40	7	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point399	399	721	40	7	40	7	40	0	0	0	0
	point400	400										
5400 S to 4800 WB outside	point424	424	721	40	7	40	7	40	0	0	0	0
	point920	920	721	40	7	40	7	40	0	0	0	0
	point919	919	721	40	7	40	7	40	0	0	0	0
	point425	425	721	40	7	40	7	40	0	0	0	0
	point426	426	721	40	7	40	7	40	0	0	0	0
	point427	427										
5400 S to 4800 WB inside	point428	428	721	40	7	40	7	40	0	0	0	0
	point922	922	721	40	7	40	7	40	0	0	0	0
	point921	921	721	40	7	40	7	40	0	0	0	0
	point429	429	721	40	7	40	7	40	0	0	0	0
	point430	430	721	40	7	40	7	40	0	0	0	0
	point431	431										
5400 S 4800 EB	point438	438	721	40	7	40	7	40	0	0	0	0
	point910	910	721	40	7	40	7	40	0	0	0	0
	point909	909	721	40	7	40	7	40	0	0	0	0
	point439	439	721	40	7	40	7	40	0	0	0	0
	point440	440	721	40	7	40	7	40	0	0	0	0
	point441	441										
5400 S to 4800 EB outside	point442	442	721	40	7	40	7	40	0	0	0	0
	point912	912	721	40	7	40	7	40	0	0	0	0
	point911	911	721	40	7	40	7	40	0	0	0	0
	point443	443	721	40	7	40	7	40	0	0	0	0
	point444	444	721	40	7	40	7	40	0	0	0	0
	point445	445										
4800 W NB	point465	465	640	25	6	25	6	25	0	0	0	0
	point466	466	640	25	6	25	6	25	0	0	0	0
	point467	467	640	25	6	25	6	25	0	0	0	0
	point468	468	640	25	6	25	6	25	0	0	0	0
	point469	469	640	25	6	25	6	25	0	0	0	0
	point470	470	640	25	6	25	6	25	0	0	0	0
	point471	471	640	25	6	25	6	25	0	0	0	0
	point472	472										
4800 W SB	point480	480	154	25	0	0	0	0	0	0	0	0
	point481	481	154	25	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point482	482	154	25	0	0	0	0	0	0	0	0
	point483	483	154	25	0	0	0	0	0	0	0	0
	point484	484	154	25	0	0	0	0	0	0	0	0
	point485	485	154	25	0	0	0	0	0	0	0	0
	point486	486	154	25	0	0	0	0	0	0	0	0
	point487	487										
5400 S west end	point495	495	721	40	7	40	7	40	0	0	0	0
	point905	905	721	40	7	40	7	40	0	0	0	0
	point908	908	721	40	7	40	7	40	0	0	0	0
	point497	497	721	40	7	40	7	40	0	0	0	0
	point498	498	721	40	7	40	7	40	0	0	0	0
	point499	499	721	40	7	40	7	40	0	0	0	0
	point500	500	721	40	7	40	7	0	0	0	0	0
	point501	501	721	40	7	40	7	40	0	0	0	0
	point502	502	721	40	7	40	7	40	0	0	0	0
	point503	503										
5400 S WB west end inside	point504	504	721	40	7	40	7	40	0	0	0	0
	point906	906	721	40	7	40	7	40	0	0	0	0
	point907	907	721	40	7	40	7	40	0	0	0	0
	point506	506	721	40	7	40	7	40	0	0	0	0
	point507	507	721	40	7	40	7	40	0	0	0	0
	point508	508	721	40	7	40	7	40	0	0	0	0
	point509	509	721	40	7	40	7	40	0	0	0	0
	point510	510	721	40	7	40	7	40	0	0	0	0
	point511	511	721	40	7	40	7	40	0	0	0	0
	point512	512										
5400 S west end EB	point513	513	721	40	7	40	7	40	0	0	0	0
	point514	514	721	40	7	40	7	40	0	0	0	0
	point515	515	721	40	7	40	7	40	0	0	0	0
	point516	516	721	40	7	40	7	40	0	0	0	0
	point517	517	721	40	7	40	7	40	0	0	0	0
	point518	518	721	40	7	40	7	40	0	0	0	0
	point519	519	721	40	7	40	7	40	0	0	0	0
	point521	521										
5400 S EB west end outside	point522	522	721	40	7	40	7	40	0	0	0	0
	point523	523	721	40	7	40	7	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point524	524	721	40	7	40	7	40	0	0	0	0
	point525	525	721	40	7	40	7	40	0	0	0	0
	point526	526	721	40	7	40	7	40	0	0	0	0
	point527	527	721	40	7	40	7	40	0	0	0	0
	point528	528	721	40	7	40	7	40	0	0	0	0
	point530	530										
Northwest SB	point547	547	317	30	3	30	3	30	0	0	0	0
	point1032	1032	317	30	3	30	3	30	0	0	0	0
	point1037	1037	317	30	3	30	3	30	0	0	0	0
	point548	548	317	30	3	30	3	30	0	0	0	0
	point549	549										
Northwest NB	point555	555	152	30	1	30	1	30	0	0	0	0
	point553	553										
4620 W SB	point556	556	105	25	0	0	0	0	0	0	0	0
	point557	557										
4620 W NB	point558	558	105	25	0	0	0	0	0	0	0	0
	point559	559										
4460 W SB	point560	560	10	25	0	0	0	0	0	0	0	0
	point561	561										
4460 W NB	point565	565	10	25	0	0	0	0	0	0	0	0
	point564	564										
4120 W SB	point830	830	100	25	1	25	1	25	0	0	0	0
	point831	831										
4120 W NB	point833	833	100	25	1	25	1	25	0	0	0	0
	point832	832										
4270 W SB	point834	834	65	25	0	0	0	0	0	0	0	0
	point835	835										
4270 W NB	point837	837	65	25	0	0	0	0	0	0	0	0
	point836	836										
5400 S WB to 4220 outside	point838	838	721	40	7	40	7	40	0	0	0	0
	point299	299										
5400 S to 4220 WB inside	point839	839	721	40	7	40	7	40	0	0	0	0
	point305	305	721	40	7	40	7	40	0	0	0	0
	point306	306										
5400 S to 4120 EB inside	point840	840	721	40	7	40	7	40	0	0	0	0
	point317	317	721	40	7	40	7	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point318	318	721	40	7	40	7	40	0	0	0	0
	point319	319	721	40	7	40	7	40	0	0	0	0
	point320	320	721	40	7	40	7	40	0	0	0	0
	point321	321										
5400 S to 4120 EB outside	point841	841	721	40	7	40	7	40	0	0	0	0
	point324	324	721	40	7	40	7	40	0	0	0	0
	point325	325	721	40	7	40	7	40	0	0	0	0
	point326	326	721	40	7	40	7	40	0	0	0	0
	point327	327	721	40	7	40	7	40	0	0	0	0
	point328	328										
5400 S to 4320 WB outside	point842	842	721	40	7	40	7	40	0	0	0	0
	point352	352										
5400 S to 4320 WB inside	point843	843	721	40	7	40	7	40	0	0	0	0
	point355	355										
5400 S to 4270 EB inside	point844	844	721	40	7	40	7	40	0	0	0	0
	point358	358										
5400 S to 4270 EB outside	point845	845	721	40	7	40	7	40	0	0	0	0
	point361	361										
4320 W SB	point850	850	47	25	0	0	0	0	0	0	0	0
	point851	851										
5400S to 4620 WB outside	point856	856	721	40	7	40	7	40	0	0	0	0
	point383	383										
5400 S to 4620 WB inside	point857	857	721	40	7	40	7	40	0	0	0	0
	point390	390										
5400 S to 4460 EB inside	point858	858	721	40	7	40	7	40	0	0	0	0
	point397	397										
5400 S to 4460 EB outside	point859	859	721	40	7	40	7	40	0	0	0	0
	point402	402										
5400 S to Northwest WB inside	point860	860	721	40	7	40	7	40	0	0	0	0
	point392	392										
5400 S to 4620 W EB inside	point861	861	721	40	7	40	7	40	0	0	0	0
	point396	396										
5400 S to 4620 EB outside	point862	862	721	40	7	40	7	40	0	0	0	0
	point401	401										
4420 W SB-2	point747	747	1	25	0	0	0	0	0	0	0	0
	point749	749	1	25	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point750	750										
4420 W SB-2	point751	751	21	25	0	0	0	0	0	0	0	0
	point748	748	21	25	0	0	0	0	0	0	0	0
	point896	896	21	25	0	0	0	0	0	0	0	0
	point374	374										
4420 W NB-2	point900	900	110	25	1	25	1	25	0	0	0	0
	point901	901	110	25	1	25	1	25	0	0	0	0
	point902	902	110	25	1	25	1	25	0	0	0	0
	point903	903	110	25	1	25	1	25	0	0	0	0
	point754	754	110	25	1	25	1	25	0	0	0	0
	point370	370										
4800 W NB-2	point809	809	154	25	0	0	0	0	0	0	0	0
	point915	915	154	25	0	0	0	0	0	0	0	0
	point914	914	154	25	0	0	0	0	0	0	0	0
	point811	811	154	25	0	0	0	0	0	0	0	0
	point806	806	154	25	0	0	0	0	0	0	0	0
	point473	473	154	25	0	0	0	0	0	0	0	0
	point474	474	154	25	0	0	0	0	0	0	0	0
	point475	475	154	25	0	0	0	0	0	0	0	0
	point476	476	154	25	0	0	0	0	0	0	0	0
	point477	477	154	25	0	0	0	0	0	0	0	0
	point478	478	154	25	0	0	0	0	0	0	0	0
	point479	479										
4800 W SB-2	point567	567	640	25	6	25	6	25	0	0	0	0
	point916	916	640	25	6	25	6	25	0	0	0	0
	point824	824	640	25	6	25	6	25	0	0	0	0
	point825	825	640	25	6	25	6	25	0	0	0	0
	point823	823	640	25	6	25	6	25	0	0	0	0
	point488	488	640	25	6	25	6	25	0	0	0	0
	point489	489	640	25	6	25	6	25	0	0	0	0
	point490	490	640	25	6	25	6	25	0	0	0	0
	point491	491	640	25	6	25	6	25	0	0	0	0
	point492	492	640	25	6	25	6	25	0	0	0	0
	point493	493	640	25	6	25	6	25	0	0	0	0
	point494	494										
Northwest Ave SB - 2	point772	772	152	30	1	30	1	30	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point773	773	152	30	1	30	1	30	0	0	0	0
	point787	787	152	30	1	30	1	30	0	0	0	0
	point774	774	152	30	1	30	1	30	0	0	0	0
	point771	771	152	30	1	30	1	30	0	0	0	0
	point550	550										
Northwest NB-2	point790	790	317	30	3	30	3	30	0	0	0	0
	point791	791	317	30	3	30	3	30	0	0	0	0
	point792	792	317	30	3	30	3	30	0	0	0	0
	point796	796	317	30	3	30	3	30	0	0	0	0
	point789	789	317	30	3	30	3	30	0	0	0	0
	point552	552	317	30	3	30	3	30	0	0	0	0
	point1038	1038	317	30	3	30	3	30	0	0	0	0
	point1031	1031	317	30	3	30	3	30	0	0	0	0
	point551	551										
4320 W NB-2	point941	941	47	25	0	0	0	0	0	0	0	0
	point871	871	47	25	0	0	0	0	0	0	0	0
	point942	942	47	25	0	0	0	0	0	0	0	0
	point943	943	47	25	0	0	0	0	0	0	0	0
	point854	854	47	25	0	0	0	0	0	0	0	0
	point849	849										
4220 W SB-2	point569	569	184	30	2	30	2	30	0	0	0	0
	point724	724	184	30	2	30	2	30	0	0	0	0
	point726	726	184	30	2	30	2	30	0	0	0	0
	point728	728	184	30	2	30	2	30	0	0	0	0
	point723	723	184	30	2	30	2	30	0	0	0	0
	point347	347										
4220 W NB-2	point568	568	168	30	2	30	2	30	0	0	0	0
	point342	342	168	30	2	30	2	30	0	0	0	0
	point717	717	168	30	2	30	2	30	0	0	0	0
	point954	954	168	30	2	30	2	30	0	0	0	0
	point716	716	168	30	2	30	2	30	0	0	0	0
	point343	343										
5460 S west side WB	point1003	1003	0	0	0	0	0	0	0	0	0	0
	point1002	1002										
5460 S west side EB	point1006	1006	0	0	0	0	0	0	0	0	0	0
	point1007	1007										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

4420 W NB-3	point1011	1011	21	25	0	0	0	0	0	0	0	0
	point1010	1010										
4420 W SB-3	point1012	1012	21	25	0	0	0	0	0	0	0	0
	point1013	1013										
5460 S east side WB	point1004	1004	0	0	0	0	0	0	0	0	0	0
	point1018	1018										
5460 S east side EB	point1019	1019	0	0	0	0	0	0	0	0	0	0
	point1008	1008										
4320 W NB-2	point1017	1017	9	25	0	0	0	0	0	0	0	0
	point846	846	9	25	0	0	0	0	0	0	0	0
	point847	847										
4320 W SB-2	point855	855	0	0	0	0	0	0	0	0	0	0
	point931	931	0	0	0	0	0	0	0	0	0	0
	point932	932	0	0	0	0	0	0	0	0	0	0
	point934	934	0	0	0	0	0	0	0	0	0	0
	point933	933	0	0	0	0	0	0	0	0	0	0
	point866	866	9	25	0	0	0	0	0	0	0	0
	point1014	1014	9	25	0	0	0	0	0	0	0	0
	point1015	1015										
5400 South to 4015 EB outside-4015 W NB	point270	270	745	45	7	45	8	45	0	0	0	0
	point1024	1024	745	45	7	45	8	45	0	0	0	0
	point52	52	745	45	7	45	8	45	0	0	0	0
	point53	53	745	45	7	45	8	45	0	0	0	0
	point54	54	745	45	7	45	8	45	0	0	0	0
	point55	55	745	45	7	45	8	45	0	0	0	0
	point56	56										
5400 South to 4015 WB outside-2	point8	8	745	45	7	45	8	45	0	0	0	0
	point7	7	745	45	7	45	8	45	0	0	0	0
	point6	6	745	45	7	45	8	45	0	0	0	0
	point5	5										
5400 South to 4015 WB middle-2	point16	16	745	45	7	45	8	45	0	0	0	0
	point15	15	745	45	7	45	8	45	0	0	0	0
	point14	14	745	45	7	45	8	45	0	0	0	0
	point13	13										
5400 S to 4015 WB inside-2	point24	24	745	45	7	45	8	45	0	0	0	0
	point23	23	745	45	7	45	8	45	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point22	22	745	45	7	45	8	45	0	0	0	0
	point21	21										
4015 W median turn-2	point1039	1039	0	0	0	0	0	0	0	0	0	0
	point1040	1040	0	0	0	0	0	0	0	0	0	0
	point1041	1041	0	0	0	0	0	0	0	0	0	0
	point1042	1042										
4015 W median turn	point1043	1043	0	0	0	0	0	0	0	0	0	0
	point1062	1062	0	0	0	0	0	0	0	0	0	0
	point1044	1044	0	0	0	0	0	0	0	0	0	0
	point1045	1045	0	0	0	0	0	0	0	0	0	0
	point1046	1046	0	0	0	0	0	0	0	0	0	0
	point1047	1047	0	0	0	0	0	0	0	0	0	0
	point1048	1048	0	0	0	0	0	0	0	0	0	0
	point1049	1049										
4015 W NB-2	point702	702	470	35	5	35	5	35	0	0	0	0
	point704	704	470	35	5	35	5	35	0	0	0	0
	point705	705	470	35	5	35	5	35	0	0	0	0
	point706	706	470	35	5	35	5	35	0	0	0	0
	point701	701	470	35	5	35	5	35	0	0	0	0
	point1058	1058	470	35	5	35	5	35	0	0	0	0
	point1059	1059	470	35	5	35	5	35	0	0	0	0
	point1060	1060	470	35	5	35	5	35	0	0	0	0
	point1061	1061										
4015 W SB	point1057	1057	470	35	5	35	5	35	0	0	0	0
	point1056	1056	470	35	5	35	5	35	0	0	0	0
	point1055	1055	470	35	5	35	5	35	0	0	0	0
	point278	278	470	35	5	35	5	35	0	0	0	0
	point279	279										
4015 W SB-2	point693	693	470	35	5	35	5	35	0	0	0	0
	point694	694	470	35	5	35	5	35	0	0	0	0
	point695	695	470	35	5	35	5	35	0	0	0	0
	point699	699	470	35	5	35	5	35	0	0	0	0
	point692	692	470	35	5	35	5	35	0	0	0	0
	point1050	1050	470	35	5	35	5	35	0	0	0	0
	point1051	1051										
4015 W NB	point1053	1053	470	35	5	35	5	35	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes

5400 South

	point272	272	470	35	5	35	5	35	0	0	0	0
	point275	275										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

Jacobs			12 April 2011										
DR			TNM 2.5										
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	5400 South												
RUN:	existing												
Roadway	Points												
Name	Name	No.	Segment										
			User 1		User 2		User 3		User 4		<unknown>		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
5400 S to 4015 EB inside	point29	29											
	point960	960											
	point958	958											
	point30	30											
	point31	31											
	point32	32											
	point33	33											
5400 South to 4015 EB middle	point40	40											
	point961	961											
	point959	959											
	point41	41											
	point42	42											
	point43	43											
	point44	44											
5400 S WB to 4120 outside	point293	293											
	point956	956											
	point682	682											
	point955	955											
	point294	294											
	point295	295											
	point296	296											
	point297	297											
5400 S to 4120 WB inside	point300	300											

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point957	957										
	point683	683										
	point301	301										
	point302	302										
	point303	303										
	point304	304										
5400 S to 4220 EB inside	point315	315										
	point951	951										
	point950	950										
	point316	316										
5400 S to 4220 EB outside	point322	322										
	point953	953										
	point952	952										
	point323	323										
4220 W NB	point340	340										
	point341	341										
4220 W SB right	point348	348										
	point349	349										
5400 S to 4270 WB outside	point350	350										
	point944	944										
	point946	946										
	point945	945										
	point351	351										
5400 S to 4270 WB inside	point353	353										
	point949	949										
	point948	948										
	point947	947										
	point354	354										
5400 S to 4320 EB inside	point356	356										
	point935	935										
	point937	937										
	point357	357										
5400 S to 4320 EB outside	point359	359										
	point936	936										
	point938	938										
	point360	360										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

5400 S to 4420 WB outside	point362	362										
	point929	929										
	point927	927										
	point926	926										
	point363	363										
5400 S to 4420 WB inside	point364	364										
	point930	930										
	point928	928										
	point925	925										
	point365	365										
5400 S to 4420 EB inside	point367	367										
	point898	898										
	point366	366										
5400 S to 4420 EB outside	point369	369										
	point897	897										
	point368	368										
4420 W NB	point373	373										
	point372	372										
4420 W SB	point377	377										
	point376	376										
5400S to 4460 WB outside	point385	385										
	point894	894										
	point384	384										
5400 S to Northwest WB outside	point386	386										
	point387	387										
5400 S to 4460 WB inside	point388	388										
	point895	895										
	point389	389										
5400 S to Northwest EB inside	point393	393										
	point924	924										
	point923	923										
	point394	394										
	point395	395										
5400 S to Northwest EB outside	point398	398										
	point918	918										
	point917	917										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

	point399	399										
	point400	400										
5400 S to 4800 WB outside	point424	424										
	point920	920										
	point919	919										
	point425	425										
	point426	426										
	point427	427										
5400 S to 4800 WB inside	point428	428										
	point922	922										
	point921	921										
	point429	429										
	point430	430										
	point431	431										
5400 S 4800 EB	point438	438										
	point910	910										
	point909	909										
	point439	439										
	point440	440										
	point441	441										
5400 S to 4800 EB outside	point442	442										
	point912	912										
	point911	911										
	point443	443										
	point444	444										
	point445	445										
4800 W NB	point465	465										
	point466	466										
	point467	467										
	point468	468										
	point469	469										
	point470	470										
	point471	471										
	point472	472										
4800 W SB	point480	480										
	point481	481										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

	point482	482										
	point483	483										
	point484	484										
	point485	485										
	point486	486										
	point487	487										
5400 S west end	point495	495										
	point905	905										
	point908	908										
	point497	497										
	point498	498										
	point499	499										
	point500	500										
	point501	501										
	point502	502										
	point503	503										
5400 S WB west end inside	point504	504										
	point906	906										
	point907	907										
	point506	506										
	point507	507										
	point508	508										
	point509	509										
	point510	510										
	point511	511										
	point512	512										
5400 S west end EB	point513	513										
	point514	514										
	point515	515										
	point516	516										
	point517	517										
	point518	518										
	point519	519										
	point521	521										
5400 S EB west end outside	point522	522										
	point523	523										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point524	524										
	point525	525										
	point526	526										
	point527	527										
	point528	528										
	point530	530										
Northwest SB	point547	547										
	point1032	1032										
	point1037	1037										
	point548	548										
	point549	549										
Northwest NB	point555	555										
	point553	553										
4620 W SB	point556	556										
	point557	557										
4620 W NB	point558	558										
	point559	559										
4460 W SB	point560	560										
	point561	561										
4460 W NB	point565	565										
	point564	564										
4120 W SB	point830	830										
	point831	831										
4120 W NB	point833	833										
	point832	832										
4270 W SB	point834	834										
	point835	835										
4270 W NB	point837	837										
	point836	836										
5400 S WB to 4220 outside	point838	838										
	point299	299										
5400 S to 4220 WB inside	point839	839										
	point305	305										
	point306	306										
5400 S to 4120 EB inside	point840	840										
	point317	317										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

	point318	318										
	point319	319										
	point320	320										
	point321	321										
5400 S to 4120 EB outside	point841	841										
	point324	324										
	point325	325										
	point326	326										
	point327	327										
	point328	328										
5400 S to 4320 WB outside	point842	842										
	point352	352										
5400 S to 4320 WB inside	point843	843										
	point355	355										
5400 S to 4270 EB inside	point844	844										
	point358	358										
5400 S to 4270 EB outside	point845	845										
	point361	361										
4320 W SB	point850	850										
	point851	851										
5400S to 4620 WB outside	point856	856										
	point383	383										
5400 S to 4620 WB inside	point857	857										
	point390	390										
5400 S to 4460 EB inside	point858	858										
	point397	397										
5400 S to 4460 EB outside	point859	859										
	point402	402										
5400 S to Northwest WB inside	point860	860										
	point392	392										
5400 S to 4620 W EB inside	point861	861										
	point396	396										
5400 S to 4620 EB outside	point862	862										
	point401	401										
4420 W SB-2	point747	747										
	point749	749										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point750	750										
4420 W SB-2	point751	751										
	point748	748										
	point896	896										
	point374	374										
4420 W NB-2	point900	900										
	point901	901										
	point902	902										
	point903	903										
	point754	754										
	point370	370										
4800 W NB-2	point809	809										
	point915	915										
	point914	914										
	point811	811										
	point806	806										
	point473	473										
	point474	474										
	point475	475										
	point476	476										
	point477	477										
	point478	478										
	point479	479										
4800 W SB-2	point567	567										
	point916	916										
	point824	824										
	point825	825										
	point823	823										
	point488	488										
	point489	489										
	point490	490										
	point491	491										
	point492	492										
	point493	493										
	point494	494										
Northwest Ave SB - 2	point772	772										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point773	773										
	point787	787										
	point774	774										
	point771	771										
	point550	550										
Northwest NB-2	point790	790										
	point791	791										
	point792	792										
	point796	796										
	point789	789										
	point552	552										
	point1038	1038										
	point1031	1031										
	point551	551										
4320 W NB-2	point941	941										
	point871	871										
	point942	942										
	point943	943										
	point854	854										
	point849	849										
4220 W SB-2	point569	569										
	point724	724										
	point726	726										
	point728	728										
	point723	723										
	point347	347										
4220 W NB-2	point568	568										
	point342	342										
	point717	717										
	point954	954										
	point716	716										
	point343	343										
5460 S west side WB	point1003	1003										
	point1002	1002										
5460 S west side EB	point1006	1006										
	point1007	1007										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

4420 W NB-3	point1011	1011										
	point1010	1010										
4420 W SB-3	point1012	1012										
	point1013	1013										
5460 S east side WB	point1004	1004										
	point1018	1018										
5460 S east side EB	point1019	1019										
	point1008	1008										
4320 W NB-2	point1017	1017										
	point846	846										
	point847	847										
4320 W SB-2	point855	855										
	point931	931										
	point932	932										
	point934	934										
	point933	933										
	point866	866										
	point1014	1014										
	point1015	1015										
5400 South to 4015 EB outside-4015 W NB	point270	270										
	point1024	1024										
	point52	52										
	point53	53										
	point54	54										
	point55	55										
	point56	56										
5400 South to 4015 WB outside-2	point8	8										
	point7	7										
	point6	6										
	point5	5										
5400 South to 4015 WB middle-2	point16	16										
	point15	15										
	point14	14										
	point13	13										
5400 S to 4015 WB inside-2	point24	24										
	point23	23										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point22	22										
	point21	21										
4015 W median turn-2	point1039	1039										
	point1040	1040										
	point1041	1041										
	point1042	1042										
4015 W median turn	point1043	1043										
	point1062	1062										
	point1044	1044										
	point1045	1045										
	point1046	1046										
	point1047	1047										
	point1048	1048										
	point1049	1049										
4015 W NB-2	point702	702										
	point704	704										
	point705	705										
	point706	706										
	point701	701										
	point1058	1058										
	point1059	1059										
	point1060	1060										
	point1061	1061										
4015 W SB	point1057	1057										
	point1056	1056										
	point1055	1055										
	point278	278										
	point279	279										
4015 W SB-2	point693	693										
	point694	694										
	point695	695										
	point699	699										
	point692	692										
	point1050	1050										
	point1051	1051										
4015 W NB	point1053	1053										

INPUT: TRAFFIC FOR LAeq1h Volumes

5400 South

	point272	272										
	point275	275										

INPUT: RECEIVERS
5400 South

Jacobs											
DR											
INPUT: RECEIVERS											
PROJECT/CONTRACT:	5400 South										
RUN:	existing										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	L _{Aeq} 1h	L _{Aeq} 1h	Sub'l	Goal	
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	170	1	1,499,769.4	7,407,073.0	10.00	4.92	0.00	66	10.0	8.0	
R2	171	1	1,499,861.0	7,407,069.5	10.00	4.92	0.00	66	10.0	8.0	
R3	172	1	1,499,943.4	7,407,075.0	10.00	4.92	0.00	66	10.0	8.0	
R4	173	1	1,499,937.6	7,407,137.0	13.00	4.92	0.00	66	10.0	8.0	
R5	174	1	1,500,037.2	7,407,112.0	15.00	4.92	0.00	66	10.0	8.0	
R6	175	1	1,500,051.0	7,407,067.0	9.00	4.92	0.00	66	10.0	8.0	
R7	176	1	1,499,747.8	7,406,813.0	7.00	4.92	0.00	66	10.0	8.0	
R8	177	1	1,499,770.6	7,406,821.0	7.00	4.92	0.00	66	10.0	8.0	
R9	178	1	1,499,841.5	7,406,772.0	7.00	4.92	0.00	66	10.0	8.0	
R10	179	1	1,499,871.2	7,406,696.5	10.00	4.92	0.00	66	10.0	8.0	
R11	180	1	1,500,531.6	7,407,108.0	0.00	4.92	0.00	66	10.0	8.0	
R12	181	1	1,500,567.0	7,407,061.0	0.00	4.92	0.00	66	10.0	8.0	
R13	182	1	1,500,620.4	7,407,008.5	0.00	4.92	0.00	66	10.0	8.0	
R14	183	1	1,500,702.0	7,406,986.0	0.00	4.92	0.00	66	10.0	8.0	
R15	184	1	1,500,725.2	7,406,979.0	0.00	4.92	0.00	66	10.0	8.0	
R16	185	1	1,500,783.8	7,406,984.0	0.00	4.92	0.00	66	10.0	8.0	
R17	186	1	1,500,846.2	7,406,983.0	0.00	4.92	0.00	66	10.0	8.0	
R18	187	1	1,500,947.0	7,406,990.5	0.00	4.92	0.00	66	10.0	8.0	
R19	188	1	1,501,008.5	7,406,988.0	0.00	4.92	0.00	66	10.0	8.0	
R20	189	1	1,501,065.0	7,406,983.0	0.00	4.92	0.00	66	10.0	8.0	
R21	190	1	1,501,120.4	7,406,985.0	0.00	4.92	0.00	66	10.0	8.0	
R22	191	1	1,501,146.6	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	

INPUT: RECEIVERS
5400 South

R23	192	1	1,501,205.1	7,406,987.0	0.00	4.92	0.00	66	10.0	8.0	
R24	193	1	1,501,264.6	7,406,986.0	0.00	4.92	0.00	66	10.0	8.0	
R25	194	1	1,500,610.2	7,407,185.0	0.00	4.92	0.00	66	10.0	8.0	
R26	195	1	1,500,662.8	7,407,138.5	0.00	4.92	0.00	66	10.0	8.0	
R27	196	1	1,500,730.2	7,407,108.0	0.00	4.92	0.00	66	10.0	8.0	
R28	197	1	1,500,793.8	7,407,090.0	0.00	4.92	0.00	66	10.0	8.0	
R29	198	1	1,500,871.4	7,407,100.0	0.00	4.92	0.00	66	10.0	8.0	
R30	199	1	1,500,899.6	7,407,098.0	0.00	4.92	0.00	66	10.0	8.0	
R31	200	1	1,500,996.4	7,407,151.5	0.00	4.92	0.00	66	10.0	8.0	
R32	201	1	1,501,011.5	7,407,176.0	0.00	4.92	0.00	66	10.0	8.0	
R40	202	1	1,501,300.9	7,407,118.5	0.00	4.92	0.00	66	10.0	8.0	
R39	203	1	1,501,294.9	7,407,190.0	0.00	4.92	0.00	66	10.0	8.0	
R33	204	1	1,501,067.0	7,407,199.0	0.00	4.92	0.00	66	10.0	8.0	
R38	205	1	1,501,297.9	7,407,256.5	0.00	4.92	0.00	66	10.0	8.0	
R37	206	1	1,501,252.5	7,407,344.0	0.00	4.92	0.00	66	10.0	8.0	
R34	207	1	1,501,102.2	7,407,254.5	0.00	4.92	0.00	66	10.0	8.0	
R35	208	1	1,501,153.8	7,407,286.5	0.00	4.92	0.00	66	10.0	8.0	
R36	209	1	1,501,206.1	7,407,325.0	0.00	4.92	0.00	66	10.0	8.0	
R41	211	1	1,501,297.1	7,407,065.0	0.00	4.92	0.00	66	10.0	8.0	
R42	213	1	1,501,442.8	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	
R43	214	1	1,501,505.8	7,406,979.0	0.00	4.92	0.00	66	10.0	8.0	
R44	215	1	1,501,568.8	7,406,985.5	0.00	4.92	0.00	66	10.0	8.0	
R45	216	1	1,501,627.9	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	
R46	217	1	1,501,688.2	7,406,981.5	0.00	4.92	0.00	66	10.0	8.0	
R47	218	1	1,501,746.0	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	
R48	219	1	1,501,809.1	7,406,977.5	0.00	4.92	0.00	66	10.0	8.0	
R49	220	1	1,501,875.0	7,406,976.5	0.00	4.92	0.00	66	10.0	8.0	
R50	221	1	1,501,934.6	7,406,976.0	0.00	4.92	0.00	66	10.0	8.0	
R51	222	1	1,501,994.9	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	
R52	223	1	1,502,056.0	7,406,977.0	0.00	4.92	0.00	66	10.0	8.0	
R53	224	1	1,502,121.2	7,406,977.0	0.00	4.92	0.00	66	10.0	8.0	
R54	225	1	1,502,179.4	7,406,973.0	0.00	4.92	0.00	66	10.0	8.0	
R55	226	1	1,502,241.4	7,406,977.0	0.00	4.92	0.00	66	10.0	8.0	
R56	227	1	1,502,304.6	7,406,971.0	0.00	4.92	0.00	66	10.0	8.0	
R57	228	1	1,502,355.9	7,406,968.0	0.00	4.92	0.00	66	10.0	8.0	
R58	231	1	1,501,444.4	7,407,087.5	-5.00	4.92	0.00	66	10.0	8.0	

INPUT: RECEIVERS
5400 South

R59	232	1	1,501,501.6	7,407,103.0	-5.00	4.92	0.00	66	10.0	8.0	
R60	233	1	1,501,567.9	7,407,106.5	-5.00	4.92	0.00	66	10.0	8.0	
R61	234	1	1,501,630.0	7,407,104.0	-5.00	4.92	0.00	66	10.0	8.0	
R62	235	1	1,501,686.8	7,407,098.5	-5.00	4.92	0.00	66	10.0	8.0	
R63	236	1	1,501,744.9	7,407,096.0	-5.00	4.92	0.00	66	10.0	8.0	
R64	237	1	1,501,810.2	7,407,100.5	-5.00	4.92	0.00	66	10.0	8.0	
R65	238	1	1,501,871.5	7,407,101.5	-5.00	4.92	0.00	66	10.0	8.0	
R66	240	1	1,501,934.1	7,407,096.0	-5.00	4.92	0.00	66	10.0	8.0	
R67	241	1	1,502,004.6	7,407,086.0	-5.00	4.92	0.00	66	10.0	8.0	
R68	242	1	1,502,054.1	7,407,098.5	-5.00	4.92	0.00	66	10.0	8.0	
R69	243	1	1,502,124.1	7,407,100.5	-5.00	4.92	0.00	66	10.0	8.0	
R70	245	1	1,502,182.9	7,407,090.0	-5.00	4.92	0.00	66	10.0	8.0	
R71	246	1	1,502,239.6	7,407,084.5	-5.00	4.92	0.00	66	10.0	8.0	
R72	247	1	1,502,300.8	7,407,091.0	-5.00	4.92	0.00	66	10.0	8.0	
R73	248	1	1,502,351.1	7,407,083.5	-5.00	4.92	0.00	66	10.0	8.0	
R74	250	1	1,501,525.2	7,406,795.5	5.00	4.92	0.00	66	10.0	8.0	Y
R75	251	1	1,501,684.2	7,406,851.5	5.00	4.92	0.00	66	10.0	8.0	
R76	252	1	1,501,760.6	7,406,853.5	5.00	4.92	0.00	66	10.0	8.0	
R77	253	1	1,501,821.2	7,406,853.0	3.00	4.92	0.00	66	10.0	8.0	
R78	254	1	1,501,880.0	7,406,854.5	3.00	4.92	0.00	66	10.0	8.0	
R79	255	1	1,501,960.2	7,406,849.0	3.00	4.92	0.00	66	10.0	8.0	
R80	256	1	1,502,025.0	7,406,851.5	3.00	4.92	0.00	66	10.0	8.0	
R81	257	1	1,502,132.4	7,406,850.5	0.00	4.92	0.00	66	10.0	8.0	
R82	258	1	1,502,164.8	7,406,849.0	0.00	4.92	0.00	66	10.0	8.0	
R83	259	1	1,502,235.4	7,406,853.0	0.00	4.92	0.00	66	10.0	8.0	
R84	260	1	1,502,300.0	7,406,849.0	0.00	4.92	0.00	66	10.0	8.0	
R85	262	1	1,502,373.5	7,406,847.5	0.00	4.92	0.00	66	10.0	8.0	
R86	264	1	1,502,437.1	7,406,851.0	0.00	4.92	0.00	66	10.0	8.0	
R87	265	1	1,502,498.9	7,406,846.0	0.00	4.92	0.00	66	10.0	8.0	
R88	266	1	1,502,567.9	7,406,846.0	0.00	4.92	0.00	66	10.0	8.0	
R89	267	1	1,501,711.0	7,406,703.5	6.00	4.92	0.00	66	10.0	8.0	
R90	268	1	1,501,788.5	7,406,707.5	6.00	4.92	0.00	66	10.0	8.0	
R91	269	1	1,501,858.6	7,406,711.0	6.00	4.92	0.00	66	10.0	8.0	
R92	270	1	1,501,921.0	7,406,701.0	6.00	4.92	0.00	66	10.0	8.0	
R93	271	1	1,501,973.9	7,406,690.0	6.00	4.92	0.00	66	10.0	8.0	
R94	272	1	1,502,058.8	7,406,696.5	6.00	4.92	0.00	66	10.0	8.0	

INPUT: RECEIVERS**5400 South**

R95	273	1	1,502,124.0	7,406,693.0	6.00	4.92	0.00	66	10.0	8.0	
R96	274	1	1,502,175.5	7,406,723.0	6.00	4.92	0.00	66	10.0	8.0	
R97	275	1	1,502,261.5	7,406,690.5	6.00	4.92	0.00	66	10.0	8.0	
R98	276	1	1,502,332.5	7,406,706.0	6.00	4.92	0.00	66	10.0	8.0	
R99	277	1	1,502,403.0	7,406,697.0	6.00	4.92	0.00	66	10.0	8.0	
R100	278	1	1,502,467.0	7,406,694.0	6.00	4.92	0.00	66	10.0	8.0	
R101	279	1	1,502,531.1	7,406,679.5	6.00	4.92	0.00	66	10.0	8.0	
R102	280	1	1,502,603.2	7,406,702.5	6.00	4.92	0.00	66	10.0	8.0	
R103	283	1	1,502,489.1	7,407,137.0	-5.00	4.92	0.00	66	10.0	8.0	
R104	286	1	1,502,576.8	7,407,142.5	-5.00	4.92	0.00	66	10.0	8.0	
R105	304	1	1,502,765.4	7,406,967.0	0.00	4.92	0.00	66	10.0	8.0	
R106	305	1	1,502,799.9	7,406,976.5	0.00	4.92	0.00	66	10.0	8.0	
R107	306	1	1,502,903.2	7,406,976.5	0.00	4.92	0.00	66	10.0	8.0	
R108	307	1	1,503,146.1	7,406,975.5	0.00	4.92	0.00	66	10.0	8.0	
R109	308	1	1,502,734.2	7,407,088.5	-3.00	4.92	0.00	66	10.0	8.0	
R110	309	1	1,502,831.0	7,407,092.0	-3.00	4.92	0.00	66	10.0	8.0	
R111	310	1	1,502,904.9	7,407,097.0	0.00	4.92	0.00	66	10.0	8.0	
R112	324	1	1,502,726.8	7,406,845.0	0.00	4.92	0.00	66	10.0	8.0	
R113	325	1	1,502,831.1	7,406,850.5	0.00	4.92	0.00	66	10.0	8.0	
R114	326	1	1,502,900.8	7,406,841.5	0.00	4.92	0.00	66	10.0	8.0	
R115	327	1	1,502,982.0	7,406,848.5	0.00	4.92	0.00	66	10.0	8.0	
R116	328	1	1,503,041.4	7,406,844.0	0.00	4.92	0.00	66	10.0	8.0	
R117	329	1	1,503,119.6	7,406,844.5	0.00	4.92	0.00	66	10.0	8.0	
R118	330	1	1,503,179.8	7,406,844.0	0.00	4.92	0.00	66	10.0	8.0	
R119	331	1	1,503,275.2	7,406,844.5	0.00	4.92	0.00	66	10.0	8.0	
R120	333	1	1,502,728.1	7,406,701.5	6.00	4.92	0.00	66	10.0	8.0	
R121	334	1	1,502,787.5	7,406,696.5	6.00	4.92	0.00	66	10.0	8.0	
R122	335	1	1,502,898.2	7,406,684.5	6.00	4.92	0.00	66	10.0	8.0	
R123	336	1	1,502,970.8	7,406,698.5	6.00	4.92	0.00	66	10.0	8.0	
R124	337	1	1,503,040.4	7,406,706.0	6.00	4.92	0.00	66	10.0	8.0	
R125	338	1	1,503,078.6	7,406,686.5	6.00	4.92	0.00	66	10.0	8.0	
R126	339	1	1,503,144.8	7,406,688.0	6.00	4.92	0.00	66	10.0	8.0	
R127	340	1	1,503,278.5	7,406,689.5	6.00	4.92	0.00	66	10.0	8.0	
R128	341	1	1,503,279.9	7,406,764.0	3.00	4.92	0.00	66	10.0	8.0	
R129	351	1	1,503,425.9	7,406,980.5	0.00	4.92	0.00	66	10.0	8.0	
R130	352	1	1,503,626.1	7,406,988.5	0.00	4.92	0.00	66	10.0	8.0	

INPUT: RECEIVERS**5400 South**

R131	353	1	1,503,379.8	7,406,844.0	0.00	4.92	0.00	66	10.0	8.0	
R132	354	1	1,503,467.9	7,406,840.5	0.00	4.92	0.00	66	10.0	8.0	
R133	355	1	1,503,540.5	7,406,841.0	0.00	4.92	0.00	66	10.0	8.0	
R134	356	1	1,503,609.4	7,406,837.0	0.00	4.92	0.00	66	10.0	8.0	
R135	357	1	1,503,378.9	7,406,744.0	3.00	4.92	0.00	66	10.0	8.0	
R137	358	1	1,503,377.9	7,406,669.5	0.00	4.92	0.00	66	10.0	8.0	
R136	361	1	1,503,610.2	7,406,741.5	6.00	4.92	0.00	66	10.0	8.0	
R138	362	1	1,503,600.2	7,406,677.0	0.00	4.92	0.00	66	10.0	8.0	
R139	364	1	1,503,857.2	7,407,197.5	0.00	4.92	0.00	66	10.0	8.0	
R140	366	1	1,504,394.5	7,406,965.0	0.00	4.92	0.00	66	10.0	8.0	
R141	368	1	1,505,243.4	7,406,381.5	0.00	4.92	0.00	66	10.0	8.0	
R146	369	1	1,505,183.9	7,406,387.0	0.00	4.92	0.00	66	10.0	8.0	
R142	370	1	1,505,247.1	7,406,274.0	0.00	4.92	0.00	66	10.0	8.0	
R147	371	1	1,505,157.4	7,406,277.5	0.00	4.92	0.00	66	10.0	8.0	
R143	372	1	1,505,240.5	7,406,154.5	0.00	4.92	0.00	66	10.0	8.0	
R148	373	1	1,505,162.1	7,406,137.0	0.00	4.92	0.00	66	10.0	8.0	
R144	374	1	1,505,232.0	7,406,005.5	0.00	4.92	0.00	66	10.0	8.0	
R149	375	1	1,505,183.9	7,405,970.5	0.00	4.92	0.00	66	10.0	8.0	
R145	376	1	1,505,240.5	7,405,922.5	0.00	4.92	0.00	66	10.0	8.0	
R150	377	1	1,505,362.5	7,405,930.0	0.00	4.92	0.00	66	10.0	8.0	
R151	378	1	1,505,362.5	7,405,868.5	0.00	4.92	0.00	66	10.0	8.0	
R152	380	1	1,504,705.8	7,407,834.5	0.00	4.92	0.00	66	10.0	8.0	
R153	381	1	1,504,438.4	7,407,632.5	0.00	4.92	0.00	66	10.0	8.0	
R157	383	1	1,505,628.0	7,407,859.0	0.00	4.92	0.00	66	10.0	8.0	Y
R156	384	1	1,505,629.4	7,407,796.5	0.00	4.92	0.00	66	10.0	8.0	Y
R155	385	1	1,505,625.1	7,407,745.5	0.00	4.92	0.00	66	10.0	8.0	Y
R154	386	1	1,505,707.1	7,407,696.5	0.00	4.92	0.00	66	10.0	8.0	Y
R159	387	1	1,505,636.5	7,408,062.5	0.00	4.92	0.00	66	10.0	8.0	Y
R160	388	1	1,505,626.6	7,408,136.0	0.00	4.92	0.00	66	10.0	8.0	Y
R161	389	1	1,505,615.2	7,408,237.5	0.00	4.92	0.00	66	10.0	8.0	Y
R162	390	1	1,505,700.1	7,408,261.5	0.00	4.92	0.00	66	10.0	8.0	Y
R158	391	1	1,505,766.5	7,408,030.0	0.00	4.92	0.00	66	10.0	8.0	Y

INPUT: BARRIERS

5400 South

Jacobs					12 April 2011													
DR					TNM 2.5													
INPUT: BARRIERS																		
PROJECT/CONTRACT:		5400 South																
RUN:		existing																
Barrier																		
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment			
		Min	Max	\$ per	\$ per	Top	Run:Rise	\$ per			X	Y	Z	at	Seg Ht	Perturbs	On	Important
				Unit	Unit	Width		Unit						Point	Incre-	#Up	#Dn	Reflec-
				Area	Vol.			Length							ment		Struct?	tions?
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft			
<< This table is empty >>																		

INPUT: BUILDING ROWS
5400 South

Jacobs					12 April 2011	
DR					TNM 2.5	
INPUT: BUILDING ROWS						
PROJECT/CONTRACT:	5400 South					
RUN:	existing					
Building Row			Points			
Name	Average Height	Building Percent	No.	Coordinates (ground)		
				X	Y	Z
	ft	%		ft	ft	ft
Building1	15.00	69	1	1,501,395.0	7,407,014.5	0.00
			2	1,502,362.8	7,407,011.0	0.00
Building2	15.00	59	3	1,501,650.1	7,406,813.5	0.00
			4	1,502,613.5	7,406,819.0	0.00
Building3	15.00	63	5	1,502,716.1	7,406,796.5	0.00
			6	1,503,283.8	7,406,796.5	0.00
Building4	15.00	67	7	1,500,533.6	7,407,147.0	0.00
			8	1,500,656.6	7,407,034.0	0.00
			9	1,500,776.4	7,407,027.0	0.00
			10	1,501,309.8	7,407,030.5	0.00
Building5	15.00	75	11	1,503,369.0	7,406,808.0	0.00
			12	1,503,608.8	7,406,807.0	0.00
Building6	15.00	69	13	1,502,726.9	7,407,014.5	0.00
			34	1,502,907.4	7,407,019.5	0.00
Building7	20.00	80	15	1,502,490.2	7,407,056.5	0.00
			16	1,502,623.4	7,407,056.5	0.00
Building8	15.00	72	17	1,499,949.2	7,407,100.0	10.00
			18	1,499,712.4	7,407,102.5	10.00
Building11	15.00	80	21	1,500,039.4	7,407,094.5	9.00
			22	1,500,099.0	7,407,094.5	9.00
Building16	15.00	69	28	1,501,258.9	7,407,051.5	0.00
			29	1,501,258.9	7,407,313.5	0.00

INPUT: ROADWAYS
5400 South

Jacobs						12 April 2011					
DR						TNM 2.5					
INPUT: ROADWAYS											
PROJECT/CONTRACT:	5400 South										
RUN:	Build										
Roadway		Points									
Name	Width	Name	No.	Coordinates	(pavement)		Flow Control			Segment	
				X	Y	Z	Control	Speed	Percent	Pvmt	On
							Device	Constraint	Vehicles	Type	Struct?
									Affected		
	ft			ft	ft	ft		mph	%		
5400 S to 4015 EB inside	11.0	point29	29	1,505,247.2	7,406,936.0	0.00	Signal	0.00	100	Average	
		point960	960	1,505,286.4	7,406,945.0	0.00				Average	
		point1627	1627	1,505,298.9	7,406,948.0	0.00				Average	
		point1628	1628	1,505,318.1	7,406,952.0	0.00				Average	
		point958	958	1,505,330.0	7,406,954.5	0.00				Average	
		point30	30	1,505,398.8	7,406,968.0	0.00				Average	
		point1657	1657	1,505,486.1	7,406,976.0	0.00				Average	
		point31	31	1,506,499.0	7,406,977.0	0.00					
5400 South to 4015 EB middle	11.0	point40	40	1,505,247.1	7,406,925.0	0.00	Signal	0.00	100	Average	
		point1629	1629	1,505,286.8	7,406,934.0	0.00				Average	
		point961	961	1,505,299.9	7,406,936.5	0.00				Average	
		point1630	1630	1,505,318.8	7,406,940.5	0.00				Average	
		point959	959	1,505,331.2	7,406,942.5	0.00				Average	
		point41	41	1,505,400.1	7,406,958.0	0.00				Average	
		point1658	1658	1,505,486.5	7,406,966.0	0.00				Average	
		point42	42	1,506,499.4	7,406,967.0	0.00					
5400 South to 4015 EB outside	11.0	point52	52	1,505,248.9	7,406,913.5	0.00	Signal	0.00	100	Average	
		point1631	1631	1,505,288.1	7,406,922.0	0.00				Average	
		point1226	1226	1,505,300.8	7,406,924.0	0.00				Average	
		point1632	1632	1,505,320.0	7,406,929.0	0.00				Average	
		point1222	1222	1,505,331.9	7,406,932.0	0.00				Average	
		point53	53	1,505,398.8	7,406,945.0	0.00				Average	
		point1659	1659	1,505,486.0	7,406,953.0	0.00				Average	
		point54	54	1,506,497.0	7,406,953.5	0.00					
4220 W NB	10.0	point340	340	1,503,990.6	7,405,666.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point341	341	1,503,991.6	7,406,836.0	0.00					
4220 W SB right	10.0	point348	348	1,503,970.9	7,407,327.0	0.00				Average	
		point349	349	1,503,970.4	7,406,930.5	0.00					
4420 W NB	10.0	point373	373	1,502,674.6	7,406,635.5	0.00	Stop	0.00	100	Average	
		point372	372	1,502,677.0	7,406,846.0	0.00					
4420 W SB	10.0	point377	377	1,502,647.1	7,408,188.5	0.00	Signal	0.00	100	Average	
		point376	376	1,502,659.0	7,406,942.0	0.00					
5400 S to 4800 WB outside	11.0	point424	424	1,500,623.1	7,406,945.0	0.00	Signal	0.00	100	Average	
		point920	920	1,500,602.8	7,406,944.5	0.00				Average	
		point919	919	1,500,573.9	7,406,944.0	0.00				Average	
		point425	425	1,500,378.0	7,406,943.0	0.00				Average	
		point426	426	1,500,202.2	7,406,937.0	0.00				Average	
		point427	427	1,500,012.5	7,406,942.0	0.00					
5400 S to 4800 WB inside	11.0	point428	428	1,500,627.0	7,406,934.5	0.00	Signal	0.00	100	Average	
		point922	922	1,500,609.9	7,406,935.0	0.00				Average	
		point921	921	1,500,581.0	7,406,935.0	0.00				Average	
		point429	429	1,500,378.2	7,406,933.0	0.00				Average	
		point430	430	1,500,202.2	7,406,927.0	0.00				Average	
		point431	431	1,500,011.9	7,406,931.5	0.00					
5400 S 4800 EB	11.0	point438	438	1,499,965.4	7,406,911.5	0.00	Signal	0.00	100	Average	
		point910	910	1,499,978.2	7,406,911.5	0.00				Average	
		point909	909	1,500,002.8	7,406,911.0	0.00				Average	
		point439	439	1,500,205.9	7,406,907.0	0.00				Average	
		point440	440	1,500,381.9	7,406,910.0	0.00				Average	
		point441	441	1,500,580.2	7,406,911.5	0.00					
5400 S to 4800 EB middle	11.0	point442	442	1,499,964.8	7,406,902.5	0.00	Signal	0.00	100	Average	
		point912	912	1,499,979.2	7,406,902.0	0.00				Average	
		point911	911	1,500,003.8	7,406,901.5	0.00				Average	
		point443	443	1,500,205.8	7,406,897.0	0.00				Average	
		point444	444	1,500,382.0	7,406,900.0	0.00				Average	
		point445	445	1,500,576.2	7,406,900.5	0.00					
4800 W NB	11.0	point465	465	1,500,124.6	7,406,348.5	0.00				Average	
		point466	466	1,500,108.0	7,406,412.5	0.00				Average	
		point467	467	1,500,072.4	7,406,484.0	0.00				Average	
		point468	468	1,500,044.0	7,406,545.0	0.00				Average	
		point469	469	1,500,023.8	7,406,597.0	0.00				Average	
		point470	470	1,500,008.0	7,406,680.5	0.00				Average	
		point471	471	1,500,007.9	7,406,702.5	0.00				Average	
		point472	472	1,500,004.0	7,406,876.5	0.00					

INPUT: ROADWAYS
5400 South

4800 W SB	11.0	point480	480	1,499,275.2	7,408,129.5	0.00				Average	
		point481	481	1,499,891.6	7,407,348.0	0.00				Average	
		point482	482	1,499,921.6	7,407,304.5	0.00				Average	
		point483	483	1,499,967.0	7,407,204.5	0.00				Average	
		point484	484	1,499,980.1	7,407,158.0	0.00				Average	
		point485	485	1,499,987.1	7,407,083.5	0.00				Average	
		point486	486	1,499,987.1	7,407,034.0	0.00				Average	
		point487	487	1,499,981.2	7,406,957.5	0.00					
5400 S west end	11.0	point495	495	1,500,012.5	7,406,942.0	0.00	Signal	0.00	100	Average	
		point905	905	1,500,002.5	7,406,942.5	0.00				Average	
		point908	908	1,499,980.2	7,406,943.5	0.00				Average	
		point496	496	1,499,936.0	7,406,944.5	0.00				Average	
		point497	497	1,499,702.6	7,406,948.5	0.00				Average	
		point498	498	1,499,611.2	7,406,953.5	0.00				Average	
		point499	499	1,499,565.4	7,406,959.5	0.00				Average	
		point500	500	1,499,520.6	7,406,970.0	0.00				Average	
		point501	501	1,499,358.6	7,407,025.5	0.00				Average	
		point502	502	1,499,263.2	7,407,037.0	0.00				Average	
		point503	503	1,499,151.6	7,407,039.5	0.00					
5400 S WB west end inside	11.0	point504	504	1,500,011.9	7,406,931.5	0.00	Signal	0.00	100	Average	
		point906	906	1,500,002.6	7,406,931.5	0.00				Average	
		point907	907	1,499,979.1	7,406,931.5	0.00				Average	
		point505	505	1,499,936.0	7,406,933.0	0.00				Average	
		point506	506	1,499,701.8	7,406,939.0	0.00				Average	
		point507	507	1,499,610.6	7,406,943.5	0.00				Average	
		point508	508	1,499,568.0	7,406,949.0	0.00				Average	
		point509	509	1,499,522.0	7,406,959.0	0.00				Average	
		point510	510	1,499,356.2	7,407,014.0	0.00				Average	
		point511	511	1,499,263.2	7,407,025.0	0.00				Average	
		point512	512	1,499,151.2	7,407,027.5	0.00					
5400 S west end EB	11.0	point513	513	1,499,148.2	7,407,004.5	0.00				Average	
		point514	514	1,499,261.0	7,407,003.5	0.00				Average	
		point515	515	1,499,353.1	7,406,989.5	0.00				Average	
		point516	516	1,499,515.9	7,406,936.5	0.00				Average	
		point517	517	1,499,564.4	7,406,925.0	0.00				Average	
		point518	518	1,499,609.5	7,406,920.0	0.00				Average	
		point519	519	1,499,701.4	7,406,915.0	0.00				Average	
		point520	520	1,499,808.1	7,406,914.5	0.00				Average	
		point521	521	1,499,965.4	7,406,911.5	0.00					

INPUT: ROADWAYS
5400 South

5400 S EB west end outside	11.0	point522	522	1,499,153.5	7,406,994.5	0.00				Average	
		point523	523	1,499,261.5	7,406,992.5	0.00				Average	
		point524	524	1,499,351.6	7,406,979.5	0.00				Average	
		point525	525	1,499,514.5	7,406,927.5	0.00				Average	
		point526	526	1,499,565.2	7,406,915.5	0.00				Average	
		point527	527	1,499,609.1	7,406,910.0	0.00				Average	
		point528	528	1,499,702.5	7,406,905.5	0.00				Average	
		point529	529	1,499,937.4	7,406,902.0	0.00				Average	
		point530	530	1,499,964.8	7,406,902.5	0.00					
Northwest SB	11.0	point547	547	1,500,147.5	7,408,162.5	0.00	Stop	0.00	100	Average	
		point1032	1251	1,500,145.8	7,407,633.5	0.00				Average	
		point1037	548	1,500,259.5	7,407,353.5	0.00				Average	
		point548	879	1,500,424.6	7,407,135.5	0.00				Average	
		point549	549	1,500,560.1	7,406,962.0	0.00					
Northwest NB	11.0	point555	555	1,501,143.2	7,406,247.5	0.00				Average	
		point554	554	1,500,728.4	7,406,785.0	0.00				Average	
		point553	553	1,500,655.6	7,406,877.0	0.00					
4620 W SB	10.0	point556	556	1,501,346.2	7,408,185.0	0.00	Signal	0.00	100	Average	
		point557	557	1,501,344.2	7,406,955.5	0.00					
4620 W NB	10.0	point558	558	1,501,366.5	7,406,956.0	0.00	Stop	0.00	100	Average	
		point559	559	1,501,369.9	7,408,203.0	0.00					
4460 W SB	10.0	point560	560	1,502,388.5	7,407,646.5	0.00	Stop	0.00	100	Average	
		point561	561	1,502,392.0	7,406,946.0	0.00					
4460 W NB	10.0	point565	565	1,502,407.1	7,406,943.5	0.00	Stop	0.00	100	Average	
		point564	564	1,502,408.6	7,407,648.0	0.00					
4120 W SB	10.0	point830	830	1,504,635.4	7,406,820.5	0.00	Stop	0.00	100	Average	
		point831	831	1,504,634.2	7,405,633.5	0.00					
4120 W NB	10.0	point833	833	1,504,650.2	7,405,627.5	0.00				Average	
		point832	832	1,504,645.8	7,406,820.5	0.00					
4270 W SB	10.0	point834	834	1,503,643.9	7,406,839.0	0.00	Stop	0.00	100	Average	
		point835	835	1,503,632.1	7,405,699.0	0.00					
4270 W NB	10.0	point837	837	1,503,652.2	7,405,686.0	0.00				Average	
		point836	836	1,503,659.6	7,406,837.0	0.00					
4320 W SB	10.0	point850	850	1,503,298.1	7,408,178.5	0.00	Signal	0.00	100	Average	
		point851	851	1,503,321.6	7,406,937.0	0.00					
4420 W NB-2	10.0	point900	900	1,502,677.0	7,406,846.0	0.00	Stop	0.00	100	Average	
		point1210	1210	1,502,676.8	7,406,856.0	0.00				Average	
		point1211	1211	1,502,678.1	7,406,868.0	0.00				Average	
		point901	901	1,502,678.0	7,406,879.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point902	902	1,502,677.1	7,406,891.0	0.00				Average	
		point1209	1209	1,502,677.8	7,406,902.0	0.00				Average	
		point903	903	1,502,678.2	7,406,913.0	0.00				Average	
		point754	754	1,502,678.4	7,406,925.0	0.00				Average	
		point370	370	1,502,666.4	7,408,200.0	0.00					
4800 W NB-2	11.0	point809	809	1,500,004.0	7,406,876.5	0.00	Signal	0.00	100	Average	
		point1660	1660	1,500,003.9	7,406,894.0	0.00				Average	
		point915	915	1,500,003.8	7,406,901.5	0.00				Average	
		point914	914	1,500,002.8	7,406,911.0	0.00				Average	
		point1700	1700	1,500,002.8	7,406,920.5	0.00				Average	
		point811	811	1,500,002.6	7,406,931.5	0.00				Average	
		point806	806	1,500,002.5	7,406,942.5	0.00				Average	
		point473	473	1,500,003.1	7,407,032.0	0.00				Average	
		point474	474	1,500,000.2	7,407,085.0	0.00				Average	
		point475	475	1,499,990.0	7,407,159.5	0.00				Average	
		point476	476	1,499,976.4	7,407,208.0	0.00				Average	
		point477	477	1,499,930.4	7,407,309.5	0.00				Average	
		point478	478	1,499,899.6	7,407,354.0	0.00				Average	
		point479	479	1,499,283.1	7,408,135.5	0.00					
4800 W SB-2	11.0	point567	567	1,499,981.2	7,406,957.5	0.00	Signal	0.00	100	Average	
		point916	916	1,499,980.2	7,406,943.5	0.00				Average	
		point824	824	1,499,979.1	7,406,931.5	0.00				Average	
		point1699	1699	1,499,978.8	7,406,920.5	0.00				Average	
		point825	825	1,499,978.2	7,406,911.5	0.00				Average	
		point823	823	1,499,979.2	7,406,902.0	0.00				Average	
		point488	488	1,499,975.9	7,406,729.5	0.00				Average	
		point489	489	1,499,978.9	7,406,656.5	0.00				Average	
		point490	490	1,499,993.4	7,406,602.5	0.00				Average	
		point491	491	1,500,013.4	7,406,545.5	0.00				Average	
		point492	492	1,500,055.4	7,406,459.0	0.00				Average	
		point493	493	1,500,073.1	7,406,419.0	0.00				Average	
		point494	494	1,500,093.9	7,406,359.5	0.00					
Northwest Ave SB - 2	11.0	point772	772	1,500,560.1	7,406,962.0	0.00	Signal	0.00	100	Average	
		point1679	1679	1,500,567.0	7,406,953.0	0.00				Average	
		point773	773	1,500,573.9	7,406,944.0	0.00				Average	
		point787	787	1,500,581.0	7,406,935.0	0.00				Average	
		point1698	1698	1,500,589.9	7,406,923.5	0.00				Average	
		point774	774	1,500,599.4	7,406,911.0	0.00				Average	
		point771	771	1,500,608.1	7,406,900.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1676	1676	1,500,616.0	7,406,890.5	0.00				Average	
		point550	550	1,501,135.4	7,406,229.5	0.00					
Northwest NB-2	11.0	point790	790	1,500,655.6	7,406,877.0	0.00	Signal	0.00	100	Average	
		point1673	1673	1,500,644.6	7,406,891.0	0.00				Average	
		point791	791	1,500,637.5	7,406,900.0	0.00				Average	
		point792	792	1,500,628.4	7,406,911.0	0.00				Average	
		point1697	1697	1,500,619.1	7,406,923.0	0.00				Average	
		point796	796	1,500,609.9	7,406,935.0	0.00				Average	
		point789	789	1,500,602.8	7,406,944.5	0.00				Average	
		point1678	1678	1,500,594.6	7,406,954.5	0.00				Average	
		point552	552	1,500,437.2	7,407,154.0	0.00				Average	
		point1038	1249	1,500,271.0	7,407,377.0	0.00				Average	
		point1031	1250	1,500,169.4	7,407,636.5	0.00				Average	
		point551	551	1,500,173.5	7,408,165.0	0.00					
4320 W NB-2	10.0	point941	941	1,503,333.1	7,406,842.5	0.00	Stop	0.00	100	Average	
		point871	871	1,503,333.0	7,406,851.0	0.00				Average	
		point1164	1164	1,503,333.4	7,406,863.5	0.00				Average	
		point1165	1165	1,503,333.8	7,406,875.0	0.00				Average	
		point942	942	1,503,333.5	7,406,886.5	0.00				Average	
		point1166	1166	1,503,334.5	7,406,897.5	0.00				Average	
		point943	943	1,503,335.4	7,406,908.0	0.00				Average	
		point854	854	1,503,336.4	7,406,920.5	0.00				Average	
		point940	940	1,503,336.2	7,406,981.0	0.00				Average	
		point939	939	1,503,335.9	7,407,038.0	0.00				Average	
		point849	849	1,503,318.4	7,408,183.0	0.00					
4220 W SB-2	10.0	point569	569	1,503,970.4	7,406,930.5	0.00	Signal	0.00	100	Average	
		point724	724	1,503,969.6	7,406,917.0	0.00				Average	
		point726	726	1,503,969.5	7,406,904.5	0.00				Average	
		point728	728	1,503,969.4	7,406,894.0	0.00				Average	
		point723	723	1,503,967.0	7,406,882.0	0.00				Average	
		point1131	1131	1,503,967.1	7,406,870.5	0.00				Average	
		point1132	1132	1,503,966.9	7,406,859.5	0.00				Average	
		point1130	1130	1,503,967.4	7,406,847.0	0.00				Average	
		point1129	1129	1,503,967.8	7,406,789.0	0.00				Average	
		point347	347	1,503,965.5	7,405,678.5	0.00					
4220 W NB-2	10.0	point568	568	1,503,991.6	7,406,836.0	0.00	Signal	0.00	100	Average	
		point1133	1133	1,503,991.8	7,406,847.5	0.00				Average	
		point1134	1134	1,503,992.2	7,406,859.0	0.00				Average	
		point1128	1128	1,503,991.9	7,406,870.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point342	342	1,503,992.2	7,406,882.0	0.00				Average	
		point717	717	1,503,993.8	7,406,893.5	0.00				Average	
		point954	954	1,503,996.8	7,406,904.5	0.00				Average	
		point716	716	1,503,997.9	7,406,917.0	0.00				Average	
		point343	343	1,503,992.6	7,407,327.0	0.00					
5460 S west side WB	10.0	point1003	1003	1,502,650.2	7,406,623.0	0.00	Stop	0.00	100	Average	
		point1002	1002	1,501,653.5	7,406,622.5	0.00					
5460 S west side EB	10.0	point1006	1006	1,501,653.5	7,406,614.0	0.00	Stop	0.00	100	Average	
		point1007	1007	1,502,648.9	7,406,614.5	0.00					
4420 W NB-3	10.0	point1011	1011	1,502,673.4	7,406,416.0	0.00	Stop	0.00	100	Average	
		point1010	1010	1,502,675.1	7,406,608.0	0.00					
4420 W SB-3	10.0	point1012	1012	1,502,659.1	7,406,608.5	0.00	Stop	0.00	100	Average	
		point1013	1013	1,502,659.1	7,406,423.0	0.00					
5460 S east side WB	10.0	point1004	1004	1,503,309.1	7,406,613.0	0.00	Stop	0.00	100	Average	
		point1018	1018	1,502,681.5	7,406,622.5	0.00					
5460 S east side EB	10.0	point1019	1019	1,502,681.4	7,406,614.5	0.00				Average	
		point1008	1008	1,503,310.0	7,406,605.0	0.00					
4320 W NB-2	10.0	point1017	1017	1,503,332.8	7,406,389.0	0.00	Stop	0.00	100	Average	
		point846	846	1,503,333.5	7,406,751.0	0.00				Average	
		point847	847	1,503,333.1	7,406,842.5	0.00					
5400 South EB inside	11.0	point1069	1069	1,500,580.2	7,406,911.5	0.00	Signal	0.00	100	Average	
		point1214	1214	1,500,599.4	7,406,911.0	0.00				Average	
		point1215	1215	1,500,628.4	7,406,911.0	0.00				Average	
		point1216	1216	1,500,663.4	7,406,908.5	0.00				Average	
		point1071	1071	1,500,889.2	7,406,905.5	0.00				Average	
		point1073	1073	1,501,526.2	7,406,887.0	0.00				Average	
		point1195	1195	1,502,175.1	7,406,882.5	0.00				Average	
		point1196	1196	1,502,499.5	7,406,880.0	0.00				Average	
		point1197	1197	1,502,658.2	7,406,879.0	0.00				Average	
		point1198	1198	1,502,678.0	7,406,879.0	0.00				Average	
		point1118	1118	1,502,824.0	7,406,878.0	0.00				Average	
		point1122	1122	1,503,040.2	7,406,876.5	0.00				Average	
		point1123	1123	1,503,256.6	7,406,875.0	0.00				Average	
		point1182	1182	1,503,320.2	7,406,875.0	0.00				Average	
		point1180	1180	1,503,333.8	7,406,875.0	0.00				Average	
		point1124	1124	1,503,473.0	7,406,874.0	0.00				Average	
		point1125	1125	1,503,689.2	7,406,872.5	0.00				Average	
		point1152	1152	1,503,937.4	7,406,870.5	0.00					
5400 South EB middle	11.0	point1087	1087	1,500,576.2	7,406,900.5	0.00	Signal	0.00	100	Average	

INPUT: ROADWAYS
5400 South

		point1248	1248	1,500,608.1	7,406,900.0	0.00				Average	
		point1220	1220	1,500,637.5	7,406,900.0	0.00				Average	
		point1221	1221	1,500,671.2	7,406,897.0	0.00				Average	
		point1217	1217	1,500,725.5	7,406,895.5	0.00				Average	
		point1085	1085	1,500,888.9	7,406,894.5	0.00				Average	
		point1083	1083	1,501,525.6	7,406,876.0	0.00				Average	
		point1135	1135	1,502,044.9	7,406,872.5	0.00				Average	
		point1136	1136	1,502,564.1	7,406,869.0	0.00				Average	
		point1200	1200	1,502,658.0	7,406,868.5	0.00				Average	
		point1201	1201	1,502,678.1	7,406,868.0	0.00				Average	
		point1199	1199	1,502,823.8	7,406,867.0	0.00				Average	
		point1137	1137	1,503,083.5	7,406,865.5	0.00				Average	
		point1184	1184	1,503,320.1	7,406,864.0	0.00				Average	
		point1183	1183	1,503,333.4	7,406,863.5	0.00				Average	
		point1138	1137	1,503,602.8	7,406,862.0	0.00				Average	
		point1139	1139	1,503,862.4	7,406,860.0	0.00				Average	
		point1150	1150	1,503,938.4	7,406,860.0	0.00					
5400 S WB outside to 4270 W	13.0	point1158	1158	1,504,027.0	7,406,917.0	0.00	Signal	0.00	100	Average	
		point1044	1044	1,503,997.9	7,406,917.0	0.00				Average	
		point1099	1099	1,503,969.6	7,406,917.0	0.00				Average	
		point1043	1043	1,503,937.4	7,406,917.0	0.00				Average	
		point1042	1042	1,503,375.2	7,406,920.5	0.00				Average	
		point1167	1167	1,503,336.4	7,406,920.5	0.00				Average	
		point1168	1168	1,503,320.4	7,406,920.5	0.00				Average	
		point1036	1036	1,503,281.4	7,406,921.5	0.00				Average	
		point1037	1037	1,502,722.1	7,406,925.0	0.00				Average	
		point1187	1187	1,502,678.4	7,406,925.0	0.00				Average	
		point1038	1038	1,502,658.6	7,406,925.0	0.00				Average	
		point1039	1039	1,502,444.0	7,406,927.0	0.00				Average	
		point1031	1031	1,502,358.8	7,406,927.5	0.00				Average	
		point1024	1024	1,501,521.5	7,406,933.5	0.00				Average	
		point1025	1025	1,501,406.5	7,406,936.5	0.00				Average	
		point1026	1026	1,501,305.8	7,406,939.5	0.00				Average	
		point1028	1028	1,500,889.9	7,406,951.5	0.00				Average	
		point1029	1029	1,500,622.6	7,406,953.5	0.00					
5400 S WB middle to 4270 W	11.0	point1159	1159	1,504,028.4	7,406,904.0	0.00	Signal	0.00	100	Average	
		point1103	1103	1,503,996.8	7,406,904.5	0.00				Average	
		point1104	1104	1,503,969.5	7,406,904.5	0.00				Average	
		point1102	1102	1,503,692.5	7,406,906.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1169	1169	1,503,606.5	7,406,906.5	0.00				Average	
		point1170	1170	1,503,520.5	7,406,907.0	0.00				Average	
		point1171	1171	1,503,335.4	7,406,908.0	0.00				Average	
		point1172	1172	1,503,320.0	7,406,908.5	0.00				Average	
		point1100	1100	1,503,262.6	7,406,909.0	0.00				Average	
		point1188	1188	1,502,678.2	7,406,913.0	0.00				Average	
		point1189	1189	1,502,658.5	7,406,913.0	0.00				Average	
		point1101	1101	1,502,403.0	7,406,915.0	0.00				Average	
		point1051	1051	1,501,543.4	7,406,920.5	0.00				Average	
		point1050	1050	1,500,906.6	7,406,939.0	0.00				Average	
		point1212	1212	1,500,633.2	7,406,943.0	0.00				Average	
		point1048	1048	1,500,623.1	7,406,945.0	0.00					
5400 S WB inside to 4270 W	11.0	point1160	1160	1,504,028.8	7,406,893.0	0.00	Signal	0.00	100	Average	
		point1111	1111	1,503,993.8	7,406,893.5	0.00				Average	
		point1109	1109	1,503,969.4	7,406,894.0	0.00				Average	
		point1110	1110	1,503,776.1	7,406,895.0	0.00				Average	
		point1105	1105	1,503,603.1	7,406,896.0	0.00				Average	
		point1173	1173	1,503,499.2	7,406,896.5	0.00				Average	
		point1174	1174	1,503,334.5	7,406,897.5	0.00				Average	
		point1175	1175	1,503,319.8	7,406,898.0	0.00				Average	
		point1176	1176	1,503,187.9	7,406,899.0	0.00				Average	
		point1106	1106	1,503,084.0	7,406,899.5	0.00				Average	
		point1190	1190	1,502,824.5	7,406,901.0	0.00				Average	
		point1192	1192	1,502,677.8	7,406,902.0	0.00				Average	
		point1107	1107	1,502,657.5	7,406,902.5	0.00				Average	
		point1108	1108	1,502,045.8	7,406,906.5	0.00				Average	
		point1060	1060	1,501,526.6	7,406,910.0	0.00				Average	
		point1062	1062	1,500,889.9	7,406,928.5	0.00				Average	
		point1213	1213	1,500,638.9	7,406,931.0	0.00				Average	
		point1061	1061	1,500,627.0	7,406,934.5	0.00					
4320 W SB-2-4320 W SB-2	10.0	point855	855	1,503,321.6	7,406,937.0	0.00	Stop	0.00	100	Average	
		point931	931	1,503,320.4	7,406,920.5	0.00				Average	
		point1162	1162	1,503,320.0	7,406,908.5	0.00				Average	
		point932	932	1,503,319.8	7,406,898.0	0.00				Average	
		point934	934	1,503,319.6	7,406,886.0	0.00				Average	
		point1161	1161	1,503,320.2	7,406,875.0	0.00				Average	
		point933	933	1,503,320.1	7,406,864.0	0.00				Average	
		point866	866	1,503,320.6	7,406,851.0	0.00				Average	
		point1014	1014	1,503,320.8	7,406,748.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1015	1015	1,503,317.1	7,406,397.5	0.00					
4420 W SB-2	10.0	point747	747	1,502,659.0	7,406,942.0	0.00	Stop	0.00	100	Average	
		point749	749	1,502,658.6	7,406,925.0	0.00				Average	
		point751	751	1,502,658.5	7,406,913.0	0.00				Average	
		point1208	1208	1,502,657.5	7,406,902.5	0.00				Average	
		point748	748	1,502,657.2	7,406,891.0	0.00				Average	
		point1206	1206	1,502,658.2	7,406,879.0	0.00				Average	
		point1207	1207	1,502,658.0	7,406,868.5	0.00				Average	
		point896	896	1,502,657.6	7,406,856.0	0.00				Average	
		point374	374	1,502,658.8	7,406,636.0	0.00					
5400 S WB outside to 4220 W	13.0	point1228	1228	1,505,352.0	7,407,015.0	0.00	Signal	0.00	100	Average	
		point1596	1596	1,505,338.4	7,407,012.0	0.00				Average	
		point1229	1229	1,505,324.8	7,407,009.0	0.00				Average	
		point1597	1597	1,505,313.6	7,407,004.5	0.00				Average	
		point1230	1230	1,505,299.9	7,407,000.0	0.00				Average	
		point1599	1599	1,505,294.2	7,406,999.0	0.00				Average	
		point1600	1600	1,505,281.0	7,406,997.0	0.00				Average	
		point1598	1598	1,505,055.8	7,406,955.5	0.00				Average	
		point1047	1047	1,504,811.8	7,406,911.0	0.00				Average	
		point1046	1046	1,504,122.4	7,406,915.5	0.00				Average	
		point1157	1157	1,504,027.0	7,406,917.0	0.00					
5400 S WB middle to 4220 W	11.0	point1232	1232	1,505,354.4	7,406,999.5	0.00	Signal	0.00	100	Average	
		point1601	1601	1,505,339.2	7,406,997.5	0.00				Average	
		point1233	1233	1,505,325.9	7,406,995.5	0.00				Average	
		point1602	1602	1,505,314.2	7,406,993.5	0.00				Average	
		point1603	1603	1,505,294.8	7,406,989.0	0.00				Average	
		point1234	1234	1,505,283.2	7,406,987.0	0.00				Average	
		point1055	1055	1,504,811.6	7,406,899.0	0.00				Average	
		point1053	1053	1,504,122.2	7,406,903.5	0.00				Average	
		point1156	1156	1,504,028.4	7,406,904.0	0.00					
5400 S WB inside to 4220 W	11.0	point1236	1236	1,505,356.9	7,406,989.0	0.00	Signal	0.00	100	Average	
		point1604	1604	1,505,340.5	7,406,986.0	0.00				Average	
		point1237	1237	1,505,327.6	7,406,984.0	0.00				Average	
		point1605	1605	1,505,315.6	7,406,981.5	0.00				Average	
		point1606	1606	1,505,296.1	7,406,977.0	0.00				Average	
		point1238	1238	1,505,284.0	7,406,974.5	0.00				Average	
		point1056	1056	1,504,811.6	7,406,888.0	0.00				Average	
		point1057	1057	1,504,122.2	7,406,892.5	0.00				Average	
		point1155	1155	1,504,028.8	7,406,893.0	0.00					

INPUT: ROADWAYS
5400 South

5400 S EB inside to 4220 W	11.0	point1154	1154	1,503,937.4	7,406,870.5	0.00	Signal	0.00	100	Average	
		point1126	1126	1,503,967.1	7,406,870.5	0.00				Average	
		point1127	1127	1,503,991.9	7,406,870.0	0.00				Average	
		point1076	1076	1,504,121.9	7,406,869.5	0.00				Average	
		point1077	1077	1,504,661.9	7,406,854.0	0.00				Average	
		point1240	1240	1,504,810.0	7,406,853.0	0.00				Average	
		point1241	1241	1,505,247.2	7,406,936.0	0.00					
5400 S EB middle to 4220 W	11.0	point1151	1151	1,503,938.4	7,406,860.0	0.00	Signal	0.00	100	Average	
		point1140	1140	1,503,966.9	7,406,859.5	0.00				Average	
		point1141	1141	1,503,992.2	7,406,859.0	0.00				Average	
		point1142	1142	1,504,057.1	7,406,859.0	0.00				Average	
		point1082	1082	1,504,122.0	7,406,858.5	0.00				Average	
		point1079	1079	1,504,661.8	7,406,843.0	0.00				Average	
		point1242	1242	1,504,811.2	7,406,842.0	0.00				Average	
		point1243	1243	1,505,247.1	7,406,925.0	0.00					
5400 S EB outside to 4220 W	13.0	point1153	1153	1,503,937.0	7,406,847.5	0.00	Signal	0.00	100	Average	
		point1148	1148	1,503,967.4	7,406,847.0	0.00				Average	
		point1149	1149	1,503,991.8	7,406,847.5	0.00				Average	
		point1096	1096	1,504,121.9	7,406,846.5	0.00				Average	
		point1097	1097	1,504,661.1	7,406,831.0	0.00				Average	
		point1245	1245	1,504,811.1	7,406,830.0	0.00				Average	
		point1246	1246	1,505,248.9	7,406,913.5	0.00					
5400 South to 4015 WB outside-2	11.0	point1252	1252	1,506,490.1	7,407,027.0	0.00				Average	
		point1654	1654	1,505,483.6	7,407,027.0	0.00				Average	
		point6	6	1,505,416.8	7,407,024.0	0.00				Average	
		point5	5	1,505,352.0	7,407,015.0	0.00					
5400 South to 4015 WB middle-2	11.0	point1253	1253	1,506,498.4	7,407,012.5	0.00				Average	
		point1655	1655	1,505,486.1	7,407,011.5	0.00				Average	
		point14	14	1,505,416.2	7,407,009.0	0.00				Average	
		point13	13	1,505,354.4	7,406,999.5	0.00					
5400 S to 4015 WB inside-2	11.0	point1254	1254	1,506,498.0	7,407,001.5	0.00				Average	
		point1656	1656	1,505,486.1	7,407,000.5	0.00				Average	
		point22	22	1,505,417.6	7,406,997.5	0.00				Average	
		point21	21	1,505,356.9	7,406,989.0	0.00					
4015 W SB	11.0	point1262	1262	1,505,280.5	7,407,012.0	0.00	Signal	0.00	100	Average	
		point1624	1624	1,505,281.0	7,406,997.0	0.00				Average	
		point1625	1625	1,505,283.2	7,406,987.0	0.00				Average	
		point1626	1626	1,505,284.0	7,406,974.5	0.00				Average	
		point1622	1622	1,505,286.4	7,406,945.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1636	1636	1,505,286.8	7,406,934.0	0.00				Average	
		point1635	1635	1,505,288.1	7,406,922.0	0.00				Average	
		point1611	1611	1,505,292.0	7,406,881.0	0.00				Average	
		point1263	1263	1,505,291.2	7,406,672.0	0.00				Average	
		point1264	1264	1,505,291.4	7,406,497.5	0.00				Average	
		point1265	1265	1,505,283.6	7,404,825.0	0.00					
4015 W SB inside	11.0	point1266	1266	1,505,292.5	7,407,017.0	0.00	Signal	0.00	100	Average	
		point1613	1613	1,505,294.2	7,406,999.0	0.00				Average	
		point1614	1614	1,505,294.8	7,406,989.0	0.00				Average	
		point1615	1615	1,505,296.1	7,406,977.0	0.00				Average	
		point1612	1612	1,505,298.9	7,406,948.0	0.00				Average	
		point1633	1633	1,505,299.9	7,406,936.5	0.00				Average	
		point1634	1634	1,505,300.8	7,406,924.0	0.00				Average	
		point1610	1610	1,505,304.4	7,406,886.0	0.00				Average	
		point1609	1609	1,505,304.0	7,406,783.5	0.00				Average	
		point1267	1267	1,505,303.2	7,406,672.0	0.00				Average	
		point1268	1268	1,505,303.4	7,406,497.5	0.00				Average	
		point1269	1269	1,505,298.5	7,406,081.0	0.00					
4015 W NB inside	11.0	point1270	1270	1,505,315.4	7,405,979.0	0.00	Signal	0.00	100	Average	
		point1574	1574	1,505,315.9	7,406,046.0	0.00				Average	
		point1572	1572	1,505,318.9	7,406,282.0	0.00				Average	
		point1271	1271	1,505,321.4	7,406,497.5	0.00				Average	
		point1272	1272	1,505,321.2	7,406,672.0	0.00				Average	
		point1273	1273	1,505,322.8	7,406,902.5	0.00					
4015 W NB outside	11.0	point1274	1274	1,505,327.4	7,405,979.0	0.00	Signal	0.00	100	Average	
		point1577	1577	1,505,327.6	7,406,039.5	0.00				Average	
		point1576	1576	1,505,328.2	7,406,071.5	0.00				Average	
		point1573	1573	1,505,329.1	7,406,149.0	0.00				Average	
		point1568	1568	1,505,329.8	7,406,217.5	0.00				Average	
		point1275	1275	1,505,333.4	7,406,497.0	0.00				Average	
		point1276	1276	1,505,333.2	7,406,672.0	0.00				Average	
		point1277	1277	1,505,334.8	7,406,903.0	0.00					
4015 W NB right turn	11.0	point1278	1278	1,505,344.9	7,406,240.0	0.00				Average	
		point1701	1701	1,505,344.8	7,406,494.0	0.00				Average	
		point1702	1702	1,505,343.8	7,406,672.5	0.00				Average	
		point1651	1651	1,505,344.5	7,406,906.0	0.00				Average	
		point1652	1652	1,505,346.8	7,406,921.5	0.00				Average	
		point1653	1653	1,505,354.0	7,406,930.0	0.00				Average	
		point1279	1279	1,505,374.4	7,406,937.5	0.00					

INPUT: ROADWAYS
5400 South

5515 S WB	11.0	point1333	1333	1,505,623.5	7,406,169.5	0.00				Average	
		point1570	1570	1,505,476.2	7,406,171.0	0.00					
4015 W NB outside-3	11.0	point1360	1360	1,505,325.5	7,404,824.5	0.00				Average	
		point1361	1361	1,505,327.4	7,405,979.0	0.00					
4015 W NB inside-3	13.0	point1364	1364	1,505,313.5	7,404,824.5	0.00				Average	
		point1365	1365	1,505,315.4	7,405,979.0	0.00					
5515 S EB	11.0	point1367	1367	1,505,501.1	7,406,158.5	0.00				Average	
		point1366	1366	1,505,623.4	7,406,157.5	0.00					
4015 W SB outside-2	11.0	point1369	1369	1,505,280.5	7,407,104.0	0.00				Average	
		point1368	1368	1,505,280.5	7,407,012.0	0.00					
4015 W SB inside-2	11.0	point1371	1371	1,505,292.5	7,407,104.0	0.00				Average	
		point1370	1370	1,505,292.5	7,407,017.0	0.00					
4015 W SB outside-3	11.0	point1464	1464	1,505,293.9	7,408,915.0	0.00				Average	
		point1463	1463	1,505,292.2	7,407,779.5	0.00					
4015 W SB inside-4	11.0	point1465	1465	1,505,305.9	7,408,915.0	0.00				Average	
		point1466	1466	1,505,304.2	7,407,775.5	0.00					
4015 W NB outside-2	11.0	point1374	1374	1,505,334.8	7,406,903.0	0.00	Signal	0.00	100	Average	
		point1642	1642	1,505,331.9	7,406,932.0	0.00				Average	
		point1641	1641	1,505,331.2	7,406,942.5	0.00				Average	
		point1640	1640	1,505,330.0	7,406,954.5	0.00				Average	
		point1619	1619	1,505,327.6	7,406,984.0	0.00				Average	
		point1621	1621	1,505,325.9	7,406,995.5	0.00				Average	
		point1620	1620	1,505,324.8	7,407,009.0	0.00				Average	
		point1607	1607	1,505,322.5	7,407,039.5	0.00				Average	
		point1548	1548	1,505,322.5	7,407,104.0	0.00				Average	
		point1549	1549	1,505,322.6	7,407,122.0	0.00				Average	
		point1550	1550	1,505,323.1	7,407,139.5	0.00				Average	
		point1551	1551	1,505,323.9	7,407,157.5	0.00				Average	
		point1552	1552	1,505,325.0	7,407,175.0	0.00				Average	
		point1555	1555	1,505,326.6	7,407,200.5	0.00				Average	
		point1556	1556	1,505,327.5	7,407,222.0	0.00				Average	
		point1391	1391	1,505,328.0	7,407,243.5	0.00				Average	
		point1390	1390	1,505,335.9	7,408,914.5	0.00					
Sams Blvd EB-2	11.0	point1437	1437	1,505,107.4	7,407,713.5	0.00				Average	
		point1441	1441	1,505,224.5	7,407,712.5	0.00					
4015 W NB inside-2	11.0	point1372	1372	1,505,322.8	7,406,902.5	0.00	Signal	0.00	100	Average	
		point1637	1637	1,505,320.0	7,406,929.0	0.00				Average	
		point1638	1638	1,505,318.8	7,406,940.5	0.00				Average	
		point1639	1639	1,505,318.1	7,406,952.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1618	1618	1,505,315.6	7,406,981.5	0.00				Average	
		point1616	1616	1,505,314.2	7,406,993.5	0.00				Average	
		point1617	1617	1,505,313.6	7,407,004.5	0.00				Average	
		point1608	1608	1,505,310.5	7,407,035.0	0.00				Average	
		point1547	1547	1,505,310.5	7,407,104.0	0.00				Average	
		point1546	1546	1,505,310.6	7,407,122.0	0.00				Average	
		point1545	1545	1,505,311.1	7,407,140.0	0.00				Average	
		point1544	1544	1,505,311.9	7,407,158.0	0.00				Average	
		point1543	1543	1,505,313.0	7,407,176.0	0.00				Average	
		point1541	1541	1,505,314.6	7,407,201.0	0.00				Average	
		point1540	1540	1,505,315.5	7,407,222.5	0.00				Average	
		point1389	1389	1,505,316.0	7,407,244.0	0.00				Average	
		point1388	1388	1,505,321.8	7,407,730.0	0.00					
4015 W NB U turn	11.0	point1431	1431	1,505,321.8	7,407,730.0	0.00	Signal	0.00	100	Average	
		point1581	1581	1,505,320.9	7,407,738.0	0.00				Average	
		point1430	1430	1,505,319.0	7,407,745.5	0.00				Average	
		point1429	1429	1,505,315.4	7,407,751.5	0.00				Average	
		point1428	1428	1,505,311.4	7,407,758.5	0.00				Average	
		point1582	1582	1,505,308.8	7,407,761.0	0.00				Average	
		point1427	1427	1,505,306.2	7,407,763.5	0.00				Average	
		point1426	1426	1,505,304.2	7,407,765.5	0.00				Average	
		point1425	1425	1,505,298.5	7,407,769.0	0.00				Average	
		point1424	1424	1,505,291.9	7,407,771.5	0.00				Average	
		point1423	1423	1,505,285.2	7,407,773.5	0.00				Average	
		point1422	1422	1,505,280.1	7,407,774.0	0.00				Average	
		point1421	1421	1,505,269.9	7,407,773.5	0.00				Average	
		point1420	1420	1,505,264.9	7,407,772.5	0.00				Average	
		point1419	1419	1,505,255.5	7,407,768.0	0.00				Average	
		point1418	1418	1,505,251.2	7,407,765.5	0.00				Average	
		point1417	1417	1,505,245.2	7,407,760.0	0.00				Average	
		point1416	1416	1,505,240.8	7,407,754.0	0.00				Average	
		point1415	1415	1,505,238.2	7,407,749.5	0.00				Average	
		point1414	1414	1,505,236.1	7,407,744.5	0.00				Average	
		point1413	1413	1,505,234.0	7,407,739.0	0.00				Average	
		point1491	1491	1,505,230.9	7,407,734.5	0.00				Average	
		point1580	1580	1,505,239.9	7,407,713.0	0.00				Average	
		point1492	1492	1,505,248.5	7,407,691.0	0.00					
Sams Blvd WB	11.0	point1588	1588	1,505,230.9	7,407,734.5	0.00				Average	
		point1434	1434	1,505,217.9	7,407,724.5	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1435	1435	1,505,206.6	7,407,724.5	0.00				Average	
		point1436	1436	1,505,107.5	7,407,725.5	0.00					
4015 W SB inside-3	11.0	point1589	1589	1,505,304.2	7,407,775.5	0.00	Signal	0.00	100	Average	
		point1467	1467	1,505,304.2	7,407,765.5	0.00				Average	
		point1585	1585	1,505,304.0	7,407,752.0	0.00				Average	
		point1584	1584	1,505,301.1	7,407,505.0	0.00				Average	
		point1468	1468	1,505,298.0	7,407,244.0	0.00				Average	
		point1469	1469	1,505,297.6	7,407,223.0	0.00				Average	
		point1470	1470	1,505,296.6	7,407,202.0	0.00				Average	
		point1471	1471	1,505,295.4	7,407,181.0	0.00				Average	
		point1473	1473	1,505,294.0	7,407,159.0	0.00				Average	
		point1474	1474	1,505,293.1	7,407,140.5	0.00				Average	
		point1475	1475	1,505,292.5	7,407,104.0	0.00					
4015 W SB outside-4	11.0	point1590	1590	1,505,292.2	7,407,779.5	0.00	Signal	0.00	100	Average	
		point1583	1583	1,505,291.9	7,407,771.5	0.00				Average	
		point1462	1462	1,505,291.4	7,407,736.0	0.00				Average	
		point1461	1461	1,505,289.5	7,407,554.0	0.00				Average	
		point1460	1460	1,505,286.4	7,407,270.5	0.00				Average	
		point1459	1459	1,505,282.5	7,407,168.0	0.00				Average	
		point1457	1457	1,505,281.1	7,407,141.0	0.00				Average	
		point1456	1456	1,505,280.5	7,407,104.0	0.00					
4015 W NB U turn merge	11.0	point1591	1591	1,505,248.5	7,407,691.0	0.00				Average	
		point1480	1480	1,505,251.6	7,407,687.5	0.00				Average	
		point1481	1481	1,505,258.9	7,407,674.0	0.00				Average	
		point1482	1482	1,505,263.4	7,407,664.5	0.00				Average	
		point1483	1483	1,505,267.5	7,407,654.5	0.00				Average	
		point1484	1484	1,505,273.1	7,407,639.5	0.00				Average	
		point1485	1485	1,505,277.9	7,407,624.0	0.00				Average	
		point1486	1486	1,505,280.6	7,407,614.0	0.00				Average	
		point1487	1487	1,505,284.0	7,407,598.0	0.00				Average	
		point1488	1488	1,505,285.9	7,407,587.5	0.00				Average	
		point1489	1489	1,505,287.9	7,407,572.0	0.00				Average	
		point1490	1490	1,505,289.5	7,407,554.0	0.00					
Sams Blvd EB	11.0	point1439	1439	1,505,107.2	7,407,701.5	0.00				Average	
		point1476	1476	1,505,221.9	7,407,700.5	0.00				Average	
		point1477	1477	1,505,236.4	7,407,698.5	0.00				Average	
		point1478	1478	1,505,244.9	7,407,694.0	0.00				Average	
		point1479	1479	1,505,248.5	7,407,691.0	0.00					
4015 W SB left turn	11.0	point1592	1592	1,505,381.4	7,406,060.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1515	1515	1,505,383.6	7,406,065.0	0.00				Average	
		point1516	1516	1,505,385.2	7,406,070.5	0.00				Average	
		point1517	1517	1,505,386.2	7,406,076.0	0.00				Average	
		point1518	1518	1,505,387.0	7,406,079.0	0.00				Average	
		point1519	1519	1,505,386.5	7,406,081.5	0.00				Average	
		point1520	1520	1,505,386.1	7,406,087.0	0.00				Average	
		point1521	1521	1,505,385.8	7,406,094.0	0.00				Average	
		point1522	1522	1,505,386.6	7,406,100.0	0.00				Average	
		point1523	1523	1,505,388.9	7,406,106.5	0.00				Average	
		point1524	1524	1,505,391.2	7,406,111.0	0.00				Average	
		point1525	1525	1,505,394.6	7,406,115.5	0.00				Average	
		point1526	1526	1,505,397.6	7,406,118.5	0.00				Average	
		point1527	1527	1,505,405.4	7,406,125.0	0.00				Average	
		point1528	1528	1,505,416.5	7,406,133.5	0.00				Average	
		point1529	1529	1,505,431.5	7,406,142.0	0.00				Average	
		point1530	1530	1,505,445.0	7,406,148.0	0.00				Average	
		point1531	1531	1,505,460.4	7,406,153.0	0.00				Average	
		point1532	1532	1,505,475.4	7,406,157.0	0.00				Average	
		point1533	1533	1,505,488.6	7,406,158.0	0.00				Average	
		point1534	1534	1,505,501.1	7,406,158.5	0.00					
4015 W SB U turn	11.0	point1493	1493	1,505,298.5	7,406,081.0	0.00	Signal	0.00	100	Average	
		point1494	1494	1,505,298.9	7,406,075.5	0.00				Average	
		point1495	1495	1,505,299.8	7,406,070.5	0.00				Average	
		point1496	1496	1,505,301.4	7,406,065.5	0.00				Average	
		point1497	1497	1,505,303.5	7,406,060.5	0.00				Average	
		point1498	1498	1,505,306.1	7,406,056.0	0.00				Average	
		point1499	1499	1,505,309.2	7,406,052.0	0.00				Average	
		point1500	1500	1,505,313.2	7,406,048.0	0.00				Average	
		point1501	1501	1,505,315.9	7,406,046.0	0.00				Average	
		point1502	1502	1,505,323.1	7,406,042.0	0.00				Average	
		point1503	1503	1,505,325.5	7,406,040.5	0.00				Average	
		point1504	1504	1,505,327.6	7,406,039.5	0.00				Average	
		point1505	1505	1,505,334.6	7,406,037.5	0.00				Average	
		point1506	1506	1,505,340.5	7,406,037.0	0.00				Average	
		point1507	1507	1,505,346.0	7,406,037.0	0.00				Average	
		point1508	1508	1,505,351.5	7,406,038.0	0.00				Average	
		point1509	1509	1,505,356.8	7,406,039.0	0.00				Average	
		point1510	1510	1,505,361.9	7,406,041.5	0.00				Average	
		point1511	1511	1,505,366.6	7,406,044.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1512	1512	1,505,371.1	7,406,047.5	0.00				Average	
		point1513	1513	1,505,378.5	7,406,055.5	0.00				Average	
		point1535	1535	1,505,381.4	7,406,060.0	0.00				Average	
		point1536	1536	1,505,359.6	7,406,114.5	0.00				Average	
		point1537	1537	1,505,341.4	7,406,176.5	0.00				Average	
		point1569	1569	1,505,335.5	7,406,197.0	0.00					
4015 W SB U turn merge	11.0	point1593	1593	1,505,335.5	7,406,197.0	0.00				Average	
		point1538	1538	1,505,329.8	7,406,217.5	0.00					
5515 S WB right	11.0	point1595	1595	1,505,476.2	7,406,171.0	0.00				Average	
		point1332	1332	1,505,369.9	7,406,172.0	0.00				Average	
		point1331	1331	1,505,364.8	7,406,172.5	0.00				Average	
		point1330	1330	1,505,359.9	7,406,174.0	0.00				Average	
		point1329	1329	1,505,354.8	7,406,175.5	0.00				Average	
		point1328	1328	1,505,349.0	7,406,177.5	0.00				Average	
		point1327	1327	1,505,344.2	7,406,182.0	0.00				Average	
		point1326	1326	1,505,335.5	7,406,197.0	0.00					
5515 S left onto 4015	11.0	point1334	1334	1,505,476.2	7,406,171.0	0.00	Signal	0.00	100	Average	
		point1335	1335	1,505,463.0	7,406,168.0	0.00				Average	
		point1336	1336	1,505,455.2	7,406,166.0	0.00				Average	
		point1337	1337	1,505,444.0	7,406,163.5	0.00				Average	
		point1338	1338	1,505,433.0	7,406,160.0	0.00				Average	
		point1339	1339	1,505,422.1	7,406,155.5	0.00				Average	
		point1340	1340	1,505,407.4	7,406,148.5	0.00				Average	
		point1341	1341	1,505,399.4	7,406,144.5	0.00				Average	
		point1342	1342	1,505,391.4	7,406,139.5	0.00				Average	
		point1343	1343	1,505,379.6	7,406,131.0	0.00				Average	
		point1344	1344	1,505,372.9	7,406,125.5	0.00				Average	
		point1345	1345	1,505,365.8	7,406,119.5	0.00				Average	
		point1346	1346	1,505,359.6	7,406,114.5	0.00				Average	
		point1347	1347	1,505,351.1	7,406,104.5	0.00				Average	
		point1348	1348	1,505,342.9	7,406,094.0	0.00				Average	
		point1349	1349	1,505,337.9	7,406,088.5	0.00				Average	
		point1350	1350	1,505,333.5	7,406,080.5	0.00				Average	
		point1575	1575	1,505,328.2	7,406,071.5	0.00				Average	
		point1351	1351	1,505,326.0	7,406,068.0	0.00				Average	
		point1352	1352	1,505,321.0	7,406,056.5	0.00				Average	
		point1353	1353	1,505,316.8	7,406,047.5	0.00				Average	
		point1571	1571	1,505,315.9	7,406,046.0	0.00				Average	
		point1354	1354	1,505,312.4	7,406,038.0	0.00				Average	

INPUT: ROADWAYS
5400 South

		point1355	1355	1,505,310.2	7,406,028.5	0.00				Average	
		point1356	1356	1,505,307.2	7,406,019.0	0.00				Average	
		point1357	1357	1,505,306.4	7,406,011.0	0.00				Average	
		point1358	1358	1,505,304.8	7,406,000.5	0.00				Average	
		point1363	1363	1,505,303.4	7,405,979.0	0.00					
Sams Blvd Left	12.0	point1643	1643	1,505,224.5	7,407,712.5	0.00	Signal	0.00	100	Average	
		point1594	1594	1,505,239.9	7,407,713.0	0.00				Average	
		point1442	1442	1,505,250.6	7,407,714.5	0.00				Average	
		point1443	1443	1,505,261.1	7,407,717.0	0.00				Average	
		point1444	1444	1,505,269.0	7,407,720.5	0.00				Average	
		point1445	1445	1,505,276.4	7,407,724.5	0.00				Average	
		point1446	1446	1,505,283.4	7,407,729.0	0.00				Average	
		point1448	1448	1,505,291.4	7,407,736.0	0.00				Average	
		point1449	1449	1,505,300.9	7,407,747.0	0.00				Average	
		point1450	1450	1,505,304.0	7,407,752.0	0.00				Average	
		point1451	1451	1,505,308.8	7,407,761.0	0.00				Average	
		point1452	1452	1,505,312.1	7,407,769.0	0.00				Average	
		point1453	1453	1,505,314.0	7,407,775.5	0.00				Average	
		point1454	1454	1,505,315.2	7,407,782.0	0.00				Average	
		point1586	1586	1,505,316.1	7,407,788.5	0.00					
4015 W NB inside-5	12.0	point1644	1644	1,505,316.1	7,407,788.5	0.00				Average	
		point1587	1587	1,505,322.4	7,408,914.5	0.00					
5515 S left onto 4015-2	11.0	point1645	1645	1,505,303.4	7,405,979.0	0.00				Average	
		point1362	1362	1,505,301.5	7,404,824.5	0.00					
Roadway508	12.0	point1646	1646	1,505,265.9	7,407,106.0	0.00				Average	
		point1647	1647	1,505,264.4	7,407,013.5	0.00				Average	
		point1648	1648	1,505,261.5	7,407,003.5	0.00				Average	
		point1649	1649	1,505,255.8	7,406,999.0	0.00				Average	
		point1650	1650	1,505,241.4	7,406,994.0	0.00					
Roadway510	12.0	point1663	1663	1,500,622.6	7,406,953.5	0.00	Signal	0.00	100	Average	
		point1664	1664	1,500,594.6	7,406,954.5	0.00				Average	
		point1680	1680	1,500,567.0	7,406,953.0	0.00				Average	
		point1665	1665	1,500,377.8	7,406,952.5	0.00				Average	
		point1666	1666	1,500,202.2	7,406,946.5	0.00				Average	
		point1667	1667	1,500,014.1	7,406,951.5	0.00					
5400 S to 4800 EB outside	12.0	point1668	1668	1,500,014.5	7,406,890.5	0.00				Average	
		point1669	1669	1,500,205.8	7,406,885.0	0.00				Average	
		point1662	1662	1,500,382.1	7,406,889.0	0.00				Average	
		point1671	1671	1,500,574.4	7,406,890.5	0.00					

INPUT: ROADWAYS
5400 South

5400 South EB outside	13.0	point1677	1677	1,500,574.4	7,406,890.5	0.00	Signal	0.00	100	Average	
		point1674	1674	1,500,616.0	7,406,890.5	0.00				Average	
		point1675	1675	1,500,644.6	7,406,891.0	0.00				Average	
		point1672	1672	1,500,653.0	7,406,889.0	0.00				Average	
		point1089	1089	1,500,680.6	7,406,884.0	0.00				Average	
		point1091	1091	1,500,888.5	7,406,882.5	0.00				Average	
		point1093	1093	1,501,525.2	7,406,864.0	0.00				Average	
		point1202	1202	1,502,174.4	7,406,859.5	0.00				Average	
		point1203	1203	1,502,499.0	7,406,857.0	0.00				Average	
		point1204	1204	1,502,657.6	7,406,856.0	0.00				Average	
		point1205	1205	1,502,676.8	7,406,856.0	0.00				Average	
		point1143	1143	1,502,823.5	7,406,855.0	0.00				Average	
		point1144	1144	1,503,083.1	7,406,853.5	0.00				Average	
		point1185	1185	1,503,213.0	7,406,852.5	0.00				Average	
		point1186	1186	1,503,320.6	7,406,851.0	0.00				Average	
		point1145	1145	1,503,333.0	7,406,851.0	0.00				Average	
		point1146	1146	1,503,602.5	7,406,850.0	0.00				Average	
		point1147	1147	1,503,937.0	7,406,847.5	0.00					
Median Turn Lane	12.0	point1068	1068	1,504,811.5	7,406,876.5	0.00				Average	
		point1067	1067	1,504,122.1	7,406,881.0	0.00				Average	
		point1119	1119	1,503,992.2	7,406,882.0	0.00				Average	
		point1120	1120	1,503,967.0	7,406,882.0	0.00				Average	
		point1112	1112	1,503,751.2	7,406,883.5	0.00				Average	
		point1113	1113	1,503,380.5	7,406,886.0	0.00				Average	
		point1177	1177	1,503,333.5	7,406,886.5	0.00				Average	
		point1178	1178	1,503,319.6	7,406,886.0	0.00				Average	
		point1179	1179	1,503,102.4	7,406,888.0	0.00				Average	
		point1114	1114	1,503,009.6	7,406,888.5	0.00				Average	
		point1193	1193	1,502,824.2	7,406,890.0	0.00				Average	
		point1194	1194	1,502,677.1	7,406,891.0	0.00				Average	
		point1115	1115	1,502,657.2	7,406,891.0	0.00				Average	
		point1116	1116	1,502,267.9	7,406,893.5	0.00				Average	
		point1117	1117	1,501,897.1	7,406,896.0	0.00				Average	
		point1063	1063	1,501,526.2	7,406,898.5	0.00				Average	
		point1064	1064	1,500,889.6	7,406,917.0	0.00				Average	
		point1681	1681	1,500,631.8	7,406,921.0	0.00				Average	
		point1682	1682	1,500,619.1	7,406,923.0	0.00				Average	
		point1683	1683	1,500,589.9	7,406,923.5	0.00				Average	
		point1684	1684	1,500,380.8	7,406,921.5	0.00				Average	

INPUT: ROADWAYS**5400 South**

		point1685	1685	1,500,203.2	7,406,917.5	0.00				Average	
		point1686	1686	1,500,012.1	7,406,919.5	0.00				Average	
		point1687	1687	1,500,002.8	7,406,920.5	0.00				Average	
		point1688	1688	1,499,978.8	7,406,920.5	0.00				Average	
		point1689	1689	1,499,899.8	7,406,922.5	0.00				Average	
		point1690	1690	1,499,704.6	7,406,926.5	0.00				Average	
		point1691	1691	1,499,611.4	7,406,928.5	0.00				Average	
		point1692	1692	1,499,567.8	7,406,935.5	0.00				Average	
		point1693	1693	1,499,521.8	7,406,948.0	0.00				Average	
		point1694	1694	1,499,354.1	7,406,999.0	0.00				Average	
		point1695	1695	1,499,263.9	7,407,013.5	0.00				Average	
		point1696	1696	1,499,151.5	7,407,015.5	0.00					

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

Jacobs												
DR												
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	5400 South											
RUN:	Build											
Roadway	Points											
Name	Name	No.	Segment									
			Autos									
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
5400 S to 4015 EB inside	point29	29	745	40	7	40	8	40	0	0	0	0
	point960	960	745	40	7	40	8	40	0	0	0	0
	point1627	1627	745	40	7	40	8	40	0	0	0	0
	point1628	1628	745	40	7	40	8	40	0	0	0	0
	point958	958	745	40	7	40	8	40	0	0	0	0
	point30	30	745	40	7	40	8	40	0	0	0	0
	point1657	1657	745	40	7	40	8	40	0	0	0	0
	point31	31										
5400 South to 4015 EB middle	point40	40	745	40	7	40	8	40	0	0	0	0
	point1629	1629	745	40	7	40	8	40	0	0	0	0
	point961	961	745	40	7	40	8	40	0	0	0	0
	point1630	1630	745	40	7	40	8	40	0	0	0	0
	point959	959	745	40	7	40	8	40	0	0	0	0
	point41	41	745	40	7	40	8	40	0	0	0	0
	point1658	1658	745	40	7	40	8	40	0	0	0	0
	point42	42										
5400 South to 4015 EB outside	point52	52	745	40	7	40	8	40	0	0	0	0
	point1631	1631	745	40	7	40	8	40	0	0	0	0
	point1226	1226	745	40	7	40	8	40	0	0	0	0
	point1632	1632	745	40	7	40	8	40	0	0	0	0
	point1222	1222	745	40	7	40	8	40	0	0	0	0
	point53	53	745	40	7	40	8	40	0	0	0	0
	point1659	1659	745	40	7	40	8	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point54	54										
4220 W NB	point340	340	184	30	2	30	2	30	0	0	0	0
	point341	341										
4220 W SB right	point348	348	168	30	2	30	2	30	0	0	0	0
	point349	349										
4420 W NB	point373	373	21	25	0	0	0	0	0	0	0	0
	point372	372										
4420 W SB	point377	377	110	25	1	25	1	25	0	0	0	0
	point376	376										
5400 S to 4800 WB outside	point424	424	745	40	7	40	8	40	0	0	0	0
	point920	920	745	40	7	40	8	40	0	0	0	0
	point919	919	745	40	7	40	8	40	0	0	0	0
	point425	425	745	40	7	40	8	40	0	0	0	0
	point426	426	745	40	7	40	8	40	0	0	0	0
	point427	427										
5400 S to 4800 WB inside	point428	428	745	40	7	40	8	40	0	0	0	0
	point922	922	745	40	7	40	8	40	0	0	0	0
	point921	921	745	40	7	40	8	40	0	0	0	0
	point429	429	745	40	7	40	8	40	0	0	0	0
	point430	430	745	40	7	40	8	40	0	0	0	0
	point431	431										
5400 S 4800 EB	point438	438	745	40	7	40	8	40	0	0	0	0
	point910	910	745	40	7	40	8	40	0	0	0	0
	point909	909	745	40	7	40	8	40	0	0	0	0
	point439	439	745	40	7	40	8	40	0	0	0	0
	point440	440	745	40	7	40	8	40	0	0	0	0
	point441	441										
5400 S to 4800 EB middle	point442	442	745	40	7	40	8	40	0	0	0	0
	point912	912	745	40	7	40	8	40	0	0	0	0
	point911	911	745	40	7	40	8	40	0	0	0	0
	point443	443	745	40	7	40	8	40	0	0	0	0
	point444	444	745	40	7	40	8	40	0	0	0	0
	point445	445										
4800 W NB	point465	465	640	25	6	25	6	25	0	0	0	0
	point466	466	640	25	6	25	6	25	0	0	0	0
	point467	467	640	25	6	25	6	25	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point468	468	640	25	6	25	6	25	0	0	0	0
	point469	469	640	25	6	25	6	25	0	0	0	0
	point470	470	640	25	6	25	6	25	0	0	0	0
	point471	471	640	25	6	25	6	25	0	0	0	0
	point472	472										
4800 W SB	point480	480	154	25	0	0	0	0	0	0	0	0
	point481	481	154	25	0	0	0	0	0	0	0	0
	point482	482	154	25	0	0	0	0	0	0	0	0
	point483	483	154	25	0	0	0	0	0	0	0	0
	point484	484	154	25	0	0	0	0	0	0	0	0
	point485	485	154	25	0	0	0	0	0	0	0	0
	point486	486	154	25	0	0	0	0	0	0	0	0
	point487	487										
5400 S west end	point495	495	721	40	7	40	7	40	0	0	0	0
	point905	905	721	40	7	40	7	40	0	0	0	0
	point908	908	721	40	7	40	7	40	0	0	0	0
	point496	496	721	40	7	40	7	40	0	0	0	0
	point497	497	721	40	7	40	7	40	0	0	0	0
	point498	498	721	40	7	40	7	40	0	0	0	0
	point499	499	721	40	7	40	7	40	0	0	0	0
	point500	500	721	40	7	40	7	40	0	0	0	0
	point501	501	721	40	7	40	7	40	0	0	0	0
	point502	502	721	40	7	40	7	40	0	0	0	0
	point503	503										
5400 S WB west end inside	point504	504	721	40	7	40	7	40	0	0	0	0
	point906	906	721	40	7	40	7	40	0	0	0	0
	point907	907	721	40	7	40	7	40	0	0	0	0
	point505	505	721	40	7	40	7	40	0	0	0	0
	point506	506	721	40	7	40	7	40	0	0	0	0
	point507	507	721	40	7	40	7	40	0	0	0	0
	point508	508	721	40	7	40	7	40	0	0	0	0
	point509	509	721	40	7	40	7	40	0	0	0	0
	point510	510	721	40	7	40	7	40	0	0	0	0
	point511	511	721	40	7	40	7	40	0	0	0	0
	point512	512										
5400 S west end EB	point513	513	721	40	7	40	7	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point514	514	721	40	7	40	7	40	0	0	0	0
	point515	515	721	40	7	40	7	40	0	0	0	0
	point516	516	721	40	7	40	7	40	0	0	0	0
	point517	517	721	40	7	40	7	40	0	0	0	0
	point518	518	721	40	7	40	7	40	0	0	0	0
	point519	519	721	40	7	40	7	40	0	0	0	0
	point520	520	721	40	7	40	7	40	0	0	0	0
	point521	521										
5400 S EB west end outside	point522	522	721	40	7	40	7	40	0	0	0	0
	point523	523	721	40	7	40	7	40	0	0	0	0
	point524	524	721	40	7	40	7	40	0	0	0	0
	point525	525	721	40	7	40	7	40	0	0	0	0
	point526	526	721	40	7	40	7	40	0	0	0	0
	point527	527	721	40	7	40	7	40	0	0	0	0
	point528	528	721	40	7	40	7	40	0	0	0	0
	point529	529	721	40	7	40	7	40	0	0	0	0
	point530	530										
Northwest SB	point547	547	326	30	0	0	0	0	0	0	0	0
	point1032	1251	326	30	0	0	0	0	0	0	0	0
	point1037	548	326	30	0	0	0	0	0	0	0	0
	point548	879	326	30	0	0	0	0	0	0	0	0
	point549	549										
Northwest NB	point555	555	155	30	0	0	0	0	0	0	0	0
	point554	554	155	30	0	0	0	0	0	0	0	0
	point553	553										
4620 W SB	point556	556	105	25	0	0	0	0	0	0	0	0
	point557	557										
4620 W NB	point558	558	105	25	0	0	0	0	0	0	0	0
	point559	559										
4460 W SB	point560	560	10	25	0	0	0	0	0	0	0	0
	point561	561										
4460 W NB	point565	565	10	25	0	0	0	0	0	0	0	0
	point564	564										
4120 W SB	point830	830	100	25	1	25	1	25	0	0	0	0
	point831	831										
4120 W NB	point833	833	100	25	1	25	1	25	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point832	832										
4270 W SB	point834	834	65	25	0	0	0	0	0	0	0	0
	point835	835										
4270 W NB	point837	837	65	25	0	0	0	0	0	0	0	0
	point836	836										
4320 W SB	point850	850	47	25	0	0	0	0	0	0	0	0
	point851	851										
4420 W NB-2	point900	900	110	25	1	25	1	25	0	0	0	0
	point1210	1210	110	25	1	25	1	25	0	0	0	0
	point1211	1211	110	25	1	25	1	25	0	0	0	0
	point901	901	110	25	1	25	1	25	0	0	0	0
	point902	902	110	25	1	25	1	25	0	0	0	0
	point1209	1209	110	25	1	25	1	25	0	0	0	0
	point903	903	110	25	1	25	1	25	0	0	0	0
	point754	754	110	25	1	25	1	25	0	0	0	0
	point370	370										
4800 W NB-2	point809	809	154	25	0	0	0	0	0	0	0	0
	point1660	1660	154	25	0	0	0	0	0	0	0	0
	point915	915	154	25	0	0	0	0	0	0	0	0
	point914	914	154	25	0	0	0	0	0	0	0	0
	point1700	1700	154	25	0	0	0	0	0	0	0	0
	point811	811	154	25	0	0	0	0	0	0	0	0
	point806	806	154	25	0	0	0	0	0	0	0	0
	point473	473	154	25	0	0	0	0	0	0	0	0
	point474	474	154	25	0	0	0	0	0	0	0	0
	point475	475	154	25	0	0	0	0	0	0	0	0
	point476	476	154	25	0	0	0	0	0	0	0	0
	point477	477	154	25	0	0	0	0	0	0	0	0
	point478	478	154	25	0	0	0	0	0	0	0	0
	point479	479										
4800 W SB-2	point567	567	640	25	6	25	6	25	0	0	0	0
	point916	916	640	25	6	25	6	25	0	0	0	0
	point824	824	640	25	6	25	6	25	0	0	0	0
	point1699	1699	640	25	6	25	6	25	0	0	0	0
	point825	825	640	25	6	25	6	25	0	0	0	0
	point823	823	640	25	6	25	6	25	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point488	488	640	25	6	25	6	25	0	0	0	0
	point489	489	640	25	6	25	6	25	0	0	0	0
	point490	490	640	25	6	25	6	25	0	0	0	0
	point491	491	640	25	6	25	6	25	0	0	0	0
	point492	492	640	25	6	25	6	25	0	0	0	0
	point493	493	640	25	6	25	6	25	0	0	0	0
	point494	494										
Northwest Ave SB - 2	point772	772	155	30	0	0	0	0	0	0	0	0
	point1679	1679	155	30	0	0	0	0	0	0	0	0
	point773	773	155	30	0	0	0	0	0	0	0	0
	point787	787	155	30	0	0	0	0	0	0	0	0
	point1698	1698	155	30	0	0	0	0	0	0	0	0
	point774	774	155	30	0	0	0	0	0	0	0	0
	point771	771	155	30	0	0	0	0	0	0	0	0
	point1676	1676	155	30	0	0	0	0	0	0	0	0
	point550	550										
Northwest NB-2	point790	790	326	30	0	0	0	0	0	0	0	0
	point1673	1673	326	30	0	0	0	0	0	0	0	0
	point791	791	326	30	0	0	0	0	0	0	0	0
	point792	792	326	30	0	0	0	0	0	0	0	0
	point1697	1697	326	30	0	0	0	0	0	0	0	0
	point796	796	326	30	0	0	0	0	0	0	0	0
	point789	789	326	30	0	0	0	0	0	0	0	0
	point1678	1678	326	30	0	0	0	0	0	0	0	0
	point552	552	326	30	0	0	0	0	0	0	0	0
	point1038	1249	326	30	0	0	0	0	0	0	0	0
	point1031	1250	326	30	0	0	0	0	0	0	0	0
	point551	551										
4320 W NB-2	point941	941	47	25	0	0	0	0	0	0	0	0
	point871	871	47	25	0	0	0	0	0	0	0	0
	point1164	1164	47	25	0	0	0	0	0	0	0	0
	point1165	1165	47	25	0	0	0	0	0	0	0	0
	point942	942	47	25	0	0	0	0	0	0	0	0
	point1166	1166	47	25	0	0	0	0	0	0	0	0
	point943	943	47	25	0	0	0	0	0	0	0	0
	point854	854	47	25	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point940	940	47	25	0	0	0	0	0	0	0	0
	point939	939	47	25	0	0	0	0	0	0	0	0
	point849	849										
4220 W SB-2	point569	569	184	30	2	30	2	30	0	0	0	0
	point724	724	184	30	2	30	2	30	0	0	0	0
	point726	726	184	30	2	30	2	30	0	0	0	0
	point728	728	184	30	2	30	2	30	0	0	0	0
	point723	723	184	30	2	30	2	30	0	0	0	0
	point1131	1131	184	30	2	30	2	30	0	0	0	0
	point1132	1132	184	30	2	30	2	30	0	0	0	0
	point1130	1130	184	30	2	30	2	30	0	0	0	0
	point1129	1129	184	30	2	30	2	30	0	0	0	0
	point347	347										
4220 W NB-2	point568	568	168	30	2	30	2	30	0	0	0	0
	point1133	1133	168	30	2	30	2	30	0	0	0	0
	point1134	1134	168	30	2	30	2	30	0	0	0	0
	point1128	1128	168	30	2	30	2	30	0	0	0	0
	point342	342	168	30	2	30	2	30	0	0	0	0
	point717	717	168	30	2	30	2	30	0	0	0	0
	point954	954	168	30	2	30	2	30	0	0	0	0
	point716	716	168	30	2	30	2	30	0	0	0	0
	point343	343										
5460 S west side WB	point1003	1003	6	25	0	0	0	0	0	0	0	0
	point1002	1002										
5460 S west side EB	point1006	1006	6	25	0	0	0	0	0	0	0	0
	point1007	1007										
4420 W NB-3	point1011	1011	6	25	0	0	0	0	0	0	0	0
	point1010	1010										
4420 W SB-3	point1012	1012	6	25	0	0	0	0	0	0	0	0
	point1013	1013										
5460 S east side WB	point1004	1004	6	25	0	0	0	0	0	0	0	0
	point1018	1018										
5460 S east side EB	point1019	1019	6	25	0	0	0	0	0	0	0	0
	point1008	1008										
4320 W NB-2	point1017	1017	9	25	0	0	0	0	0	0	0	0
	point846	846	9	25	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point847	847										
5400 South EB inside	point1069	1069	745	40	7	40	8	40	0	0	0	0
	point1214	1214	745	40	7	40	8	40	0	0	0	0
	point1215	1215	745	40	7	40	8	40	0	0	0	0
	point1216	1216	745	40	7	40	8	40	0	0	0	0
	point1071	1071	745	40	7	40	8	40	0	0	0	0
	point1073	1073	745	40	7	40	8	40	0	0	0	0
	point1195	1195	745	40	7	40	8	40	0	0	0	0
	point1196	1196	745	40	7	40	8	40	0	0	0	0
	point1197	1197	745	40	7	40	8	40	0	0	0	0
	point1198	1198	745	40	7	40	8	40	0	0	0	0
	point1118	1118	745	40	7	40	8	40	0	0	0	0
	point1122	1122	745	40	7	40	8	40	0	0	0	0
	point1123	1123	745	40	7	40	8	40	0	0	0	0
	point1182	1182	745	40	7	40	8	40	0	0	0	0
	point1180	1180	745	40	7	40	8	40	0	0	0	0
	point1124	1124	745	40	7	40	8	40	0	0	0	0
	point1125	1125	745	40	7	40	8	40	0	0	0	0
	point1152	1152										
5400 South EB middle	point1087	1087	745	40	7	40	8	40	0	0	0	0
	point1248	1248	745	40	7	40	8	40	0	0	0	0
	point1220	1220	745	40	7	40	8	40	0	0	0	0
	point1221	1221	745	40	7	40	8	40	0	0	0	0
	point1217	1217	745	40	7	40	8	40	0	0	0	0
	point1085	1085	745	40	7	40	8	40	0	0	0	0
	point1083	1083	745	40	7	40	8	40	0	0	0	0
	point1135	1135	745	40	7	40	8	40	0	0	0	0
	point1136	1136	745	40	7	40	8	40	0	0	0	0
	point1200	1200	745	40	7	40	8	40	0	0	0	0
	point1201	1201	745	40	7	40	8	40	0	0	0	0
	point1199	1199	745	40	7	40	8	40	0	0	0	0
	point1137	1137	745	40	7	40	8	40	0	0	0	0
	point1184	1184	745	40	7	40	8	40	0	0	0	0
	point1183	1183	745	40	7	40	8	40	0	0	0	0
	point1138	1138	745	40	7	40	8	40	0	0	0	0
	point1139	1139	745	40	7	40	8	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1150	1150										
5400 S WB outside to 4270 W	point1158	1158	745	40	7	40	8	40	0	0	0	0
	point1044	1044	745	40	7	40	8	40	0	0	0	0
	point1099	1099	745	40	7	40	8	40	0	0	0	0
	point1043	1043	745	40	7	40	8	40	0	0	0	0
	point1042	1042	745	40	7	40	8	40	0	0	0	0
	point1167	1167	745	40	7	40	8	40	0	0	0	0
	point1168	1168	745	40	7	40	8	40	0	0	0	0
	point1036	1036	745	40	7	40	8	40	0	0	0	0
	point1037	1037	745	40	7	40	8	40	0	0	0	0
	point1187	1187	745	40	7	40	8	40	0	0	0	0
	point1038	1038	745	40	7	40	8	40	0	0	0	0
	point1039	1039	745	40	7	40	8	40	0	0	0	0
	point1031	1031	745	40	7	40	8	40	0	0	0	0
	point1024	1024	745	40	7	40	8	40	0	0	0	0
	point1025	1025	745	40	7	40	8	40	0	0	0	0
	point1026	1026	745	40	7	40	8	40	0	0	0	0
	point1028	1028	745	40	7	40	8	40	0	0	0	0
	point1029	1029										
5400 S WB middle to 4270 W	point1159	1159	745	40	7	40	8	40	0	0	0	0
	point1103	1103	745	40	7	40	8	40	0	0	0	0
	point1104	1104	745	40	7	40	8	40	0	0	0	0
	point1102	1102	745	40	7	40	8	40	0	0	0	0
	point1169	1169	745	40	7	40	8	40	0	0	0	0
	point1170	1170	745	40	7	40	8	40	0	0	0	0
	point1171	1171	745	40	7	40	8	40	0	0	0	0
	point1172	1172	745	40	7	40	8	40	0	0	0	0
	point1100	1100	745	40	7	40	8	40	0	0	0	0
	point1188	1188	745	40	7	40	8	40	0	0	0	0
	point1189	1189	745	40	7	40	8	40	0	0	0	0
	point1101	1101	745	40	7	40	8	40	0	0	0	0
	point1051	1051	745	40	7	40	8	40	0	0	0	0
	point1050	1050	745	40	7	40	8	40	0	0	0	0
	point1212	1212	745	40	7	40	8	40	0	0	0	0
	point1048	1048										
5400 S WB inside to 4270 W	point1160	1160	745	40	7	40	8	40	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1111	1111	745	40	7	40	8	40	0	0	0	0
	point1109	1109	745	40	7	40	8	40	0	0	0	0
	point1110	1110	745	40	7	40	8	40	0	0	0	0
	point1105	1105	745	40	7	40	8	40	0	0	0	0
	point1173	1173	745	40	7	40	8	40	0	0	0	0
	point1174	1174	745	40	7	40	8	40	0	0	0	0
	point1175	1175	745	40	7	40	8	40	0	0	0	0
	point1176	1176	745	40	7	40	8	40	0	0	0	0
	point1106	1106	745	40	7	40	8	40	0	0	0	0
	point1190	1190	745	40	7	40	8	40	0	0	0	0
	point1192	1192	745	40	7	40	8	40	0	0	0	0
	point1107	1107	745	40	7	40	8	40	0	0	0	0
	point1108	1108	745	40	7	40	8	40	0	0	0	0
	point1060	1060	745	40	7	40	8	40	0	0	0	0
	point1062	1062	745	40	7	40	8	40	0	0	0	0
	point1213	1213	745	40	7	40	8	40	0	0	0	0
	point1061	1061										
4320 W SB-2-4320 W SB-2	point855	855	0	0	0	0	0	0	0	0	0	0
	point931	931	0	0	0	0	0	0	0	0	0	0
	point1162	1162	0	0	0	0	0	0	0	0	0	0
	point932	932	0	0	0	0	0	0	0	0	0	0
	point934	934	0	0	0	0	0	0	0	0	0	0
	point1161	1161	0	0	0	0	0	0	0	0	0	0
	point933	933	0	0	0	0	0	0	0	0	0	0
	point866	866	9	25	0	0	0	0	0	0	0	0
	point1014	1014	9	25	0	0	0	0	0	0	0	0
	point1015	1015										
4420 W SB-2	point747	747	1	25	0	0	0	0	0	0	0	0
	point749	749	1	25	0	0	0	0	0	0	0	0
	point751	751	21	25	0	0	0	0	0	0	0	0
	point1208	1208	21	25	0	0	0	0	0	0	0	0
	point748	748	21	25	0	0	0	0	0	0	0	0
	point1206	1206	21	25	0	0	0	0	0	0	0	0
	point1207	1207	21	25	0	0	0	0	0	0	0	0
	point896	896	21	25	0	0	0	0	0	0	0	0
	point374	374										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

5400 S WB outside to 4220 W	point1228	1228	745	40	7	40	8	40	0	0	0	0
	point1596	1596	745	40	7	40	8	40	0	0	0	0
	point1229	1229	745	40	7	40	8	40	0	0	0	0
	point1597	1597	745	40	7	40	8	40	0	0	0	0
	point1230	1230	745	40	7	40	8	40	0	0	0	0
	point1599	1599	745	40	7	40	8	40	0	0	0	0
	point1600	1600	745	40	7	40	8	40	0	0	0	0
	point1598	1598	745	40	7	40	8	40	0	0	0	0
	point1047	1047	745	40	7	40	8	40	0	0	0	0
	point1046	1046	745	40	7	40	8	40	0	0	0	0
	point1157	1157										
5400 S WB middle to 4220 W	point1232	1232	745	40	7	40	8	40	0	0	0	0
	point1601	1601	745	40	7	40	8	40	0	0	0	0
	point1233	1233	745	40	7	40	8	40	0	0	0	0
	point1602	1602	745	40	7	40	8	40	0	0	0	0
	point1603	1603	745	40	7	40	8	40	0	0	0	0
	point1234	1234	745	40	7	40	8	40	0	0	0	0
	point1055	1055	745	40	7	40	8	40	0	0	0	0
	point1053	1053	745	40	7	40	8	40	0	0	0	0
	point1156	1156										
5400 S WB inside to 4220 W	point1236	1236	745	40	7	40	8	40	0	0	0	0
	point1604	1604	745	40	7	40	8	40	0	0	0	0
	point1237	1237	745	40	7	40	8	40	0	0	0	0
	point1605	1605	745	40	7	40	8	40	0	0	0	0
	point1606	1606	745	40	7	40	8	40	0	0	0	0
	point1238	1238	745	40	7	40	8	40	0	0	0	0
	point1056	1056	745	40	7	40	8	40	0	0	0	0
	point1057	1057	745	40	7	40	8	40	0	0	0	0
	point1155	1155										
5400 S EB inside to 4220 W	point1154	1154	745	40	7	40	8	40	0	0	0	0
	point1126	1126	745	40	7	40	8	40	0	0	0	0
	point1127	1127	745	40	7	40	8	40	0	0	0	0
	point1076	1076	745	40	7	40	8	40	0	0	0	0
	point1077	1077	745	40	7	40	8	40	0	0	0	0
	point1240	1240	745	40	7	40	8	40	0	0	0	0
	point1241	1241										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

5400 S EB middle to 4220 W	point1151	1151	745	40	7	40	8	40	0	0	0	0
	point1140	1140	745	40	7	40	8	40	0	0	0	0
	point1141	1141	745	40	7	40	8	40	0	0	0	0
	point1142	1142	745	40	7	40	8	40	0	0	0	0
	point1082	1082	745	40	7	40	8	40	0	0	0	0
	point1079	1079	745	40	7	40	8	40	0	0	0	0
	point1242	1242	745	40	7	40	8	40	0	0	0	0
	point1243	1243										
5400 S EB outside to 4220 W	point1153	1153	745	40	7	40	8	40	0	0	0	0
	point1148	1148	745	40	7	40	8	40	0	0	0	0
	point1149	1149	745	40	7	40	8	40	0	0	0	0
	point1096	1096	745	40	7	40	8	40	0	0	0	0
	point1097	1097	745	40	7	40	8	40	0	0	0	0
	point1245	1245	745	40	7	40	8	40	0	0	0	0
	point1246	1246										
5400 South to 4015 WB outside-2	point1252	1252	745	40	7	40	8	40	0	0	0	0
	point1654	1654	745	40	7	40	8	40	0	0	0	0
	point6	6	745	40	7	40	8	40	0	0	0	0
	point5	5										
5400 South to 4015 WB middle-2	point1253	1253	745	40	7	40	8	40	0	0	0	0
	point1655	1655	745	40	7	40	8	40	0	0	0	0
	point14	14	745	40	7	40	8	40	0	0	0	0
	point13	13										
5400 S to 4015 WB inside-2	point1254	1254	745	40	7	40	8	40	0	0	0	0
	point1656	1656	745	40	7	40	8	40	0	0	0	0
	point22	22	745	40	7	40	8	40	0	0	0	0
	point21	21										
4015 W SB	point1262	1262	470	35	5	35	5	35	0	0	0	0
	point1624	1624	470	35	5	35	5	35	0	0	0	0
	point1625	1625	470	35	5	35	5	35	0	0	0	0
	point1626	1626	470	35	5	35	5	35	0	0	0	0
	point1622	1622	470	35	5	35	5	35	0	0	0	0
	point1636	1636	470	35	5	35	5	35	0	0	0	0
	point1635	1635	470	35	5	35	5	35	0	0	0	0
	point1611	1611	470	35	5	35	5	35	0	0	0	0
	point1263	1263	470	35	5	35	5	35	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1264	1264	470	35	5	35	5	35	0	0	0	0
	point1265	1265										
4015 W SB inside	point1266	1266	470	35	5	35	5	35	0	0	0	0
	point1613	1613	470	35	5	35	5	35	0	0	0	0
	point1614	1614	470	35	5	35	5	35	0	0	0	0
	point1615	1615	470	35	5	35	5	35	0	0	0	0
	point1612	1612	470	35	5	35	5	35	0	0	0	0
	point1633	1633	470	35	5	35	5	35	0	0	0	0
	point1634	1634	470	35	5	35	5	35	0	0	0	0
	point1610	1610	470	35	5	35	5	35	0	0	0	0
	point1609	1609	470	35	5	35	5	35	0	0	0	0
	point1267	1267	470	35	5	35	5	35	0	0	0	0
	point1268	1268	470	35	5	35	5	35	0	0	0	0
	point1269	1269										
4015 W NB inside	point1270	1270	470	35	5	35	5	35	0	0	0	0
	point1574	1574	470	35	5	35	5	35	0	0	0	0
	point1572	1572	470	35	5	35	5	35	0	0	0	0
	point1271	1271	470	35	5	35	5	35	0	0	0	0
	point1272	1272	470	35	5	35	5	35	0	0	0	0
	point1273	1273										
4015 W NB outside	point1274	1274	470	35	5	35	5	35	0	0	0	0
	point1577	1577	470	35	5	35	5	35	0	0	0	0
	point1576	1576	470	35	5	35	5	35	0	0	0	0
	point1573	1573	470	35	5	35	5	35	0	0	0	0
	point1568	1568	470	35	5	35	5	35	0	0	0	0
	point1275	1275	470	35	5	35	5	35	0	0	0	0
	point1276	1276	470	35	5	35	5	35	0	0	0	0
	point1277	1277										
4015 W NB right turn	point1278	1278	385	35	4	35	4	35	0	0	0	0
	point1701	1701	385	35	4	35	4	35	0	0	0	0
	point1702	1702	385	35	4	35	4	35	0	0	0	0
	point1651	1651	385	35	4	35	4	35	0	0	0	0
	point1652	1652	385	35	4	35	4	35	0	0	0	0
	point1653	1653	385	35	4	35	4	35	0	0	0	0
	point1279	1279										
5515 S WB	point1333	1333	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1570	1570										
4015 W NB outside-3	point1360	1360	470	35	5	35	5	35	0	0	0	0
	point1361	1361										
4015 W NB inside-3	point1364	1364	470	35	5	35	5	35	0	0	0	0
	point1365	1365										
5515 S EB	point1367	1367	0	0	0	0	0	0	0	0	0	0
	point1366	1366										
4015 W SB outside-2	point1369	1369	418	35	4	35	4	35	0	0	0	0
	point1368	1368										
4015 W SB inside-2	point1371	1371	417	35	4	35	4	35	0	0	0	0
	point1370	1370										
4015 W SB outside-3	point1464	1464	0	0	0	0	0	0	0	0	0	0
	point1463	1463										
4015 W SB inside-4	point1465	1465	470	35	5	35	5	35	0	0	0	0
	point1466	1466										
4015 W NB outside-2	point1374	1374	470	35	5	35	5	35	0	0	0	0
	point1642	1642	470	35	5	35	5	35	0	0	0	0
	point1641	1641	470	35	5	35	5	35	0	0	0	0
	point1640	1640	470	35	5	35	5	35	0	0	0	0
	point1619	1619	470	35	5	35	5	35	0	0	0	0
	point1621	1621	470	35	5	35	5	35	0	0	0	0
	point1620	1620	470	35	5	35	5	35	0	0	0	0
	point1607	1607	470	35	5	35	5	35	0	0	0	0
	point1548	1548	470	35	5	35	5	35	0	0	0	0
	point1549	1549	470	35	5	35	5	35	0	0	0	0
	point1550	1550	470	35	5	35	5	35	0	0	0	0
	point1551	1551	470	35	5	35	5	35	0	0	0	0
	point1552	1552	470	35	5	35	5	35	0	0	0	0
	point1555	1555	470	35	5	35	5	35	0	0	0	0
	point1556	1556	470	35	5	35	5	35	0	0	0	0
	point1391	1391	470	35	5	35	5	35	0	0	0	0
	point1390	1390										
Sams Blvd EB-2	point1437	1437	0	0	0	0	0	0	0	0	0	0
	point1441	1441										
4015 W NB inside-2	point1372	1372	354	35	3	35	3	35	0	0	0	0
	point1637	1637	354	35	3	35	3	35	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1638	1638	354	35	3	35	3	35	0	0	0	0
	point1639	1639	354	35	3	35	3	35	0	0	0	0
	point1618	1618	354	35	3	35	3	35	0	0	0	0
	point1616	1616	354	35	3	35	3	35	0	0	0	0
	point1617	1617	354	35	3	35	3	35	0	0	0	0
	point1608	1608	354	35	3	35	3	35	0	0	0	0
	point1547	1547	354	35	3	35	3	35	0	0	0	0
	point1546	1546	354	35	3	35	3	35	0	0	0	0
	point1545	1545	354	35	3	35	3	35	0	0	0	0
	point1544	1544	354	35	3	35	3	35	0	0	0	0
	point1543	1543	354	35	3	35	3	35	0	0	0	0
	point1541	1541	354	35	3	35	3	35	0	0	0	0
	point1540	1540	354	35	3	35	3	35	0	0	0	0
	point1389	1389	354	35	3	35	3	35	0	0	0	0
	point1388	1388										
4015 W NB U turn	point1431	1431	354	10	3	10	3	10	0	0	0	0
	point1581	1581	354	10	3	10	3	10	0	0	0	0
	point1430	1430	354	10	3	10	3	10	0	0	0	0
	point1429	1429	354	10	3	10	3	10	0	0	0	0
	point1428	1428	354	10	3	10	3	10	0	0	0	0
	point1582	1582	354	10	3	10	3	10	0	0	0	0
	point1427	1427	354	10	3	10	3	10	0	0	0	0
	point1426	1426	354	10	3	10	3	10	0	0	0	0
	point1425	1425	354	10	3	10	3	10	0	0	0	0
	point1424	1424	354	10	3	10	3	10	0	0	0	0
	point1423	1423	354	10	3	10	3	10	0	0	0	0
	point1422	1422	354	10	3	10	3	10	0	0	0	0
	point1421	1421	354	10	3	10	3	10	0	0	0	0
	point1420	1420	354	10	3	10	3	10	0	0	0	0
	point1419	1419	354	10	3	10	3	10	0	0	0	0
	point1418	1418	354	10	3	10	3	10	0	0	0	0
	point1417	1417	354	10	3	10	3	10	0	0	0	0
	point1416	1416	354	10	3	10	3	10	0	0	0	0
	point1415	1415	354	10	3	10	3	10	0	0	0	0
	point1414	1414	354	10	3	10	3	10	0	0	0	0
	point1413	1413	354	10	3	10	3	10	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1491	1491	354	10	3	10	3	10	0	0	0	0
	point1580	1580	354	10	3	10	3	10	0	0	0	0
	point1492	1492										
Sams Blvd WB	point1588	1588	0	0	0	0	0	0	0	0	0	0
	point1434	1434	0	0	0	0	0	0	0	0	0	0
	point1435	1435	0	0	0	0	0	0	0	0	0	0
	point1436	1436										
4015 W SB inside-3	point1589	1589	470	35	5	35	5	35	0	0	0	0
	point1467	1467	470	35	5	35	5	35	0	0	0	0
	point1585	1585	470	35	5	35	5	35	0	0	0	0
	point1584	1584	470	35	5	35	5	35	0	0	0	0
	point1468	1468	470	35	5	35	5	35	0	0	0	0
	point1469	1469	470	35	5	35	5	35	0	0	0	0
	point1470	1470	470	35	5	35	5	35	0	0	0	0
	point1471	1471	470	35	5	35	5	35	0	0	0	0
	point1473	1473	470	35	5	35	5	35	0	0	0	0
	point1474	1474	470	35	5	35	5	35	0	0	0	0
	point1475	1475										
4015 W SB outside-4	point1590	1590	354	35	3	35	3	35	0	0	0	0
	point1583	1583	354	35	3	35	3	35	0	0	0	0
	point1462	1462	354	35	3	35	3	35	0	0	0	0
	point1461	1461	354	35	3	35	3	35	0	0	0	0
	point1460	1460	354	35	3	35	3	35	0	0	0	0
	point1459	1459	354	35	3	35	3	35	0	0	0	0
	point1457	1457	354	35	3	35	3	35	0	0	0	0
	point1456	1456										
4015 W NB U turn merge	point1591	1591	354	25	3	25	3	25	0	0	0	0
	point1480	1480	354	25	3	25	3	25	0	0	0	0
	point1481	1481	354	25	3	25	3	25	0	0	0	0
	point1482	1482	354	25	3	25	3	25	0	0	0	0
	point1483	1483	354	25	3	25	3	25	0	0	0	0
	point1484	1484	354	25	3	25	3	25	0	0	0	0
	point1485	1485	354	25	3	25	3	25	0	0	0	0
	point1486	1486	354	25	3	25	3	25	0	0	0	0
	point1487	1487	354	25	3	25	3	25	0	0	0	0
	point1488	1488	354	25	3	25	3	25	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1489	1489	354	25	3	25	3	25	0	0	0	0
	point1490	1490										
Sams Blvd EB	point1439	1439	0	0	0	0	0	0	0	0	0	0
	point1476	1476	0	0	0	0	0	0	0	0	0	0
	point1477	1477	0	0	0	0	0	0	0	0	0	0
	point1478	1478	0	0	0	0	0	0	0	0	0	0
	point1479	1479										
4015 W SB left turn	point1592	1592	0	0	0	0	0	0	0	0	0	0
	point1515	1515	0	0	0	0	0	0	0	0	0	0
	point1516	1516	0	0	0	0	0	0	0	0	0	0
	point1517	1517	0	0	0	0	0	0	0	0	0	0
	point1518	1518	0	0	0	0	0	0	0	0	0	0
	point1519	1519	0	0	0	0	0	0	0	0	0	0
	point1520	1520	0	0	0	0	0	0	0	0	0	0
	point1521	1521	0	0	0	0	0	0	0	0	0	0
	point1522	1522	0	0	0	0	0	0	0	0	0	0
	point1523	1523	0	0	0	0	0	0	0	0	0	0
	point1524	1524	0	0	0	0	0	0	0	0	0	0
	point1525	1525	0	0	0	0	0	0	0	0	0	0
	point1526	1526	0	0	0	0	0	0	0	0	0	0
	point1527	1527	0	0	0	0	0	0	0	0	0	0
	point1528	1528	0	0	0	0	0	0	0	0	0	0
	point1529	1529	0	0	0	0	0	0	0	0	0	0
	point1530	1530	0	0	0	0	0	0	0	0	0	0
	point1531	1531	0	0	0	0	0	0	0	0	0	0
	point1532	1532	0	0	0	0	0	0	0	0	0	0
	point1533	1533	0	0	0	0	0	0	0	0	0	0
	point1534	1534										
4015 W SB U turn	point1493	1493	370	25	4	25	3	25	0	0	0	0
	point1494	1494	370	25	4	25	3	25	0	0	0	0
	point1495	1495	370	25	4	25	3	25	0	0	0	0
	point1496	1496	370	25	4	25	3	25	0	0	0	0
	point1497	1497	370	25	4	25	3	25	0	0	0	0
	point1498	1498	370	25	4	25	3	25	0	0	0	0
	point1499	1499	370	25	4	25	3	25	0	0	0	0
	point1500	1500	370	25	4	25	3	25	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1501	1501	370	25	4	25	3	25	0	0	0	0
	point1502	1502	370	25	4	25	3	25	0	0	0	0
	point1503	1503	370	25	4	25	3	25	0	0	0	0
	point1504	1504	370	25	4	25	3	25	0	0	0	0
	point1505	1505	370	25	4	25	3	25	0	0	0	0
	point1506	1506	370	25	4	25	3	25	0	0	0	0
	point1507	1507	370	25	4	25	3	25	0	0	0	0
	point1508	1508	370	25	4	25	3	25	0	0	0	0
	point1509	1509	370	25	4	25	3	25	0	0	0	0
	point1510	1510	370	25	4	25	3	25	0	0	0	0
	point1511	1511	370	25	4	25	3	25	0	0	0	0
	point1512	1512	370	25	4	25	3	25	0	0	0	0
	point1513	1513	370	25	4	25	3	25	0	0	0	0
	point1535	1535	370	25	4	25	3	25	0	0	0	0
	point1536	1536	370	25	4	25	3	25	0	0	0	0
	point1537	1537	370	25	4	25	3	25	0	0	0	0
	point1569	1569										
4015 W SB U turn merge	point1593	1593	0	0	0	0	0	0	0	0	0	0
	point1538	1538										
5515 S WB right	point1595	1595	0	0	0	0	0	0	0	0	0	0
	point1332	1332	0	0	0	0	0	0	0	0	0	0
	point1331	1331	0	0	0	0	0	0	0	0	0	0
	point1330	1330	0	0	0	0	0	0	0	0	0	0
	point1329	1329	0	0	0	0	0	0	0	0	0	0
	point1328	1328	0	0	0	0	0	0	0	0	0	0
	point1327	1327	0	0	0	0	0	0	0	0	0	0
	point1326	1326										
5515 S left onto 4015	point1334	1334	0	0	0	0	0	0	0	0	0	0
	point1335	1335	0	0	0	0	0	0	0	0	0	0
	point1336	1336	0	0	0	0	0	0	0	0	0	0
	point1337	1337	0	0	0	0	0	0	0	0	0	0
	point1338	1338	0	0	0	0	0	0	0	0	0	0
	point1339	1339	0	0	0	0	0	0	0	0	0	0
	point1340	1340	0	0	0	0	0	0	0	0	0	0
	point1341	1341	0	0	0	0	0	0	0	0	0	0
	point1342	1342	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1343	1343	0	0	0	0	0	0	0	0	0	0
	point1344	1344	0	0	0	0	0	0	0	0	0	0
	point1345	1345	0	0	0	0	0	0	0	0	0	0
	point1346	1346	0	0	0	0	0	0	0	0	0	0
	point1347	1347	0	0	0	0	0	0	0	0	0	0
	point1348	1348	0	0	0	0	0	0	0	0	0	0
	point1349	1349	0	0	0	0	0	0	0	0	0	0
	point1350	1350	0	0	0	0	0	0	0	0	0	0
	point1575	1575	0	0	0	0	0	0	0	0	0	0
	point1351	1351	0	0	0	0	0	0	0	0	0	0
	point1352	1352	0	0	0	0	0	0	0	0	0	0
	point1353	1353	0	0	0	0	0	0	0	0	0	0
	point1571	1571	0	0	0	0	0	0	0	0	0	0
	point1354	1354	0	0	0	0	0	0	0	0	0	0
	point1355	1355	0	0	0	0	0	0	0	0	0	0
	point1356	1356	0	0	0	0	0	0	0	0	0	0
	point1357	1357	0	0	0	0	0	0	0	0	0	0
	point1358	1358	0	0	0	0	0	0	0	0	0	0
	point1363	1363										
Sams Blvd Left	point1643	1643	0	0	0	0	0	0	0	0	0	0
	point1594	1594	0	0	0	0	0	0	0	0	0	0
	point1442	1442	0	0	0	0	0	0	0	0	0	0
	point1443	1443	0	0	0	0	0	0	0	0	0	0
	point1444	1444	0	0	0	0	0	0	0	0	0	0
	point1445	1445	0	0	0	0	0	0	0	0	0	0
	point1446	1446	0	0	0	0	0	0	0	0	0	0
	point1448	1448	0	0	0	0	0	0	0	0	0	0
	point1449	1449	0	0	0	0	0	0	0	0	0	0
	point1450	1450	0	0	0	0	0	0	0	0	0	0
	point1451	1451	0	0	0	0	0	0	0	0	0	0
	point1452	1452	0	0	0	0	0	0	0	0	0	0
	point1453	1453	0	0	0	0	0	0	0	0	0	0
	point1454	1454	0	0	0	0	0	0	0	0	0	0
	point1586	1586										
4015 W NB inside-5	point1644	1644	0	0	0	0	0	0	0	0	0	0
	point1587	1587										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

5515 S left onto 4015-2	point1645	1645	470	35	5	35	5	35	0	0	0	0
	point1362	1362										
Roadway508	point1646	1646	323	35	3	35	3	35	0	0	0	0
	point1647	1647	323	35	3	35	3	35	0	0	0	0
	point1648	1648	323	35	3	35	3	35	0	0	0	0
	point1649	1649	323	35	3	35	3	35	0	0	0	0
	point1650	1650										
Roadway510	point1663	1663	745	40	7	40	8	40	0	0	0	0
	point1664	1664	745	40	7	40	8	40	0	0	0	0
	point1680	1680	745	40	7	40	8	40	0	0	0	0
	point1665	1665	745	40	7	40	8	40	0	0	0	0
	point1666	1666	745	40	7	40	8	40	0	0	0	0
	point1667	1667										
5400 S to 4800 EB outside	point1668	1668	745	40	7	40	8	40	0	0	0	0
	point1669	1669	745	40	7	40	8	40	0	0	0	0
	point1662	1662	745	40	7	40	8	40	0	0	0	0
	point1671	1671										
5400 South EB outside	point1677	1677	745	40	7	40	8	40	0	0	0	0
	point1674	1674	745	40	7	40	8	40	0	0	0	0
	point1675	1675	745	40	7	40	8	40	0	0	0	0
	point1672	1672	745	40	7	40	8	40	0	0	0	0
	point1089	1089	745	40	7	40	8	40	0	0	0	0
	point1091	1091	745	40	7	40	8	40	0	0	0	0
	point1093	1093	745	40	7	40	8	40	0	0	0	0
	point1202	1202	745	40	7	40	8	40	0	0	0	0
	point1203	1203	745	40	7	40	8	40	0	0	0	0
	point1204	1204	745	40	7	40	8	40	0	0	0	0
	point1205	1205	745	40	7	40	8	40	0	0	0	0
	point1143	1143	745	40	7	40	8	40	0	0	0	0
	point1144	1144	745	40	7	40	8	40	0	0	0	0
	point1185	1185	745	40	7	40	8	40	0	0	0	0
	point1186	1186	745	40	7	40	8	40	0	0	0	0
	point1145	1145	745	40	7	40	8	40	0	0	0	0
	point1146	1146	745	40	7	40	8	40	0	0	0	0
	point1147	1147										
Median Turn Lane	point1068	1068	0	0	0	0	0	0	0	0	0	0

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1067	1067	0	0	0	0	0	0	0	0	0	0
	point1119	1119	0	0	0	0	0	0	0	0	0	0
	point1120	1120	0	0	0	0	0	0	0	0	0	0
	point1112	1112	0	0	0	0	0	0	0	0	0	0
	point1113	1113	0	0	0	0	0	0	0	0	0	0
	point1177	1177	0	0	0	0	0	0	0	0	0	0
	point1178	1178	0	0	0	0	0	0	0	0	0	0
	point1179	1179	0	0	0	0	0	0	0	0	0	0
	point1114	1114	0	0	0	0	0	0	0	0	0	0
	point1193	1193	0	0	0	0	0	0	0	0	0	0
	point1194	1194	0	0	0	0	0	0	0	0	0	0
	point1115	1115	0	0	0	0	0	0	0	0	0	0
	point1116	1116	0	0	0	0	0	0	0	0	0	0
	point1117	1117	0	0	0	0	0	0	0	0	0	0
	point1063	1063	0	0	0	0	0	0	0	0	0	0
	point1064	1064	0	0	0	0	0	0	0	0	0	0
	point1681	1681	0	0	0	0	0	0	0	0	0	0
	point1682	1682	0	0	0	0	0	0	0	0	0	0
	point1683	1683	0	0	0	0	0	0	0	0	0	0
	point1684	1684	0	0	0	0	0	0	0	0	0	0
	point1685	1685	0	0	0	0	0	0	0	0	0	0
	point1686	1686	0	0	0	0	0	0	0	0	0	0
	point1687	1687	0	0	0	0	0	0	0	0	0	0
	point1688	1688	0	0	0	0	0	0	0	0	0	0
	point1689	1689	0	0	0	0	0	0	0	0	0	0
	point1690	1690	0	0	0	0	0	0	0	0	0	0
	point1691	1691	0	0	0	0	0	0	0	0	0	0
	point1692	1692	0	0	0	0	0	0	0	0	0	0
	point1693	1693	0	0	0	0	0	0	0	0	0	0
	point1694	1694	0	0	0	0	0	0	0	0	0	0
	point1695	1695	0	0	0	0	0	0	0	0	0	0
	point1696	1696										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

Jacobs			12 April 2011										
DR			TNM 2.5										
INPUT: TRAFFIC FOR LAeq1h Volumes													
PROJECT/CONTRACT:	5400 South												
RUN:	Build												
Roadway	Points												
Name	Name	No.	Segment										
			User 1		User 2		User 3		User 4		<unknown>		
			V	S	V	S	V	S	V	S	V	S	
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	
5400 S to 4015 EB inside	point29	29											
	point960	960											
	point1627	1627											
	point1628	1628											
	point958	958											
	point30	30											
	point1657	1657											
	point31	31											
5400 South to 4015 EB middle	point40	40											
	point1629	1629											
	point961	961											
	point1630	1630											
	point959	959											
	point41	41											
	point1658	1658											
	point42	42											
5400 South to 4015 EB outside	point52	52											
	point1631	1631											
	point1226	1226											
	point1632	1632											
	point1222	1222											
	point53	53											
	point1659	1659											

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point54	54											
4220 W NB	point340	340											
	point341	341											
4220 W SB right	point348	348											
	point349	349											
4420 W NB	point373	373											
	point372	372											
4420 W SB	point377	377											
	point376	376											
5400 S to 4800 WB outside	point424	424											
	point920	920											
	point919	919											
	point425	425											
	point426	426											
	point427	427											
5400 S to 4800 WB inside	point428	428											
	point922	922											
	point921	921											
	point429	429											
	point430	430											
	point431	431											
5400 S 4800 EB	point438	438											
	point910	910											
	point909	909											
	point439	439											
	point440	440											
	point441	441											
5400 S to 4800 EB middle	point442	442											
	point912	912											
	point911	911											
	point443	443											
	point444	444											
	point445	445											
4800 W NB	point465	465											
	point466	466											
	point467	467											

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point468	468										
	point469	469										
	point470	470										
	point471	471										
	point472	472										
4800 W SB	point480	480										
	point481	481										
	point482	482										
	point483	483										
	point484	484										
	point485	485										
	point486	486										
	point487	487										
5400 S west end	point495	495										
	point905	905										
	point908	908										
	point496	496										
	point497	497										
	point498	498										
	point499	499										
	point500	500										
	point501	501										
	point502	502										
	point503	503										
5400 S WB west end inside	point504	504										
	point906	906										
	point907	907										
	point505	505										
	point506	506										
	point507	507										
	point508	508										
	point509	509										
	point510	510										
	point511	511										
	point512	512										
5400 S west end EB	point513	513										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point514	514										
	point515	515										
	point516	516										
	point517	517										
	point518	518										
	point519	519										
	point520	520										
	point521	521										
5400 S EB west end outside	point522	522										
	point523	523										
	point524	524										
	point525	525										
	point526	526										
	point527	527										
	point528	528										
	point529	529										
	point530	530										
Northwest SB	point547	547										
	point1032	1251										
	point1037	548										
	point548	879										
	point549	549										
Northwest NB	point555	555										
	point554	554										
	point553	553										
4620 W SB	point556	556										
	point557	557										
4620 W NB	point558	558										
	point559	559										
4460 W SB	point560	560										
	point561	561										
4460 W NB	point565	565										
	point564	564										
4120 W SB	point830	830										
	point831	831										
4120 W NB	point833	833										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

	point832	832										
4270 W SB	point834	834										
	point835	835										
4270 W NB	point837	837										
	point836	836										
4320 W SB	point850	850										
	point851	851										
4420 W NB-2	point900	900										
	point1210	1210										
	point1211	1211										
	point901	901										
	point902	902										
	point1209	1209										
	point903	903										
	point754	754										
	point370	370										
4800 W NB-2	point809	809										
	point1660	1660										
	point915	915										
	point914	914										
	point1700	1700										
	point811	811										
	point806	806										
	point473	473										
	point474	474										
	point475	475										
	point476	476										
	point477	477										
	point478	478										
	point479	479										
4800 W SB-2	point567	567										
	point916	916										
	point824	824										
	point1699	1699										
	point825	825										
	point823	823										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point488	488										
	point489	489										
	point490	490										
	point491	491										
	point492	492										
	point493	493										
	point494	494										
Northwest Ave SB - 2	point772	772										
	point1679	1679										
	point773	773										
	point787	787										
	point1698	1698										
	point774	774										
	point771	771										
	point1676	1676										
	point550	550										
Northwest NB-2	point790	790										
	point1673	1673										
	point791	791										
	point792	792										
	point1697	1697										
	point796	796										
	point789	789										
	point1678	1678										
	point552	552										
	point1038	1249										
	point1031	1250										
	point551	551										
4320 W NB-2	point941	941										
	point871	871										
	point1164	1164										
	point1165	1165										
	point942	942										
	point1166	1166										
	point943	943										
	point854	854										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point940	940										
	point939	939										
	point849	849										
4220 W SB-2	point569	569										
	point724	724										
	point726	726										
	point728	728										
	point723	723										
	point1131	1131										
	point1132	1132										
	point1130	1130										
	point1129	1129										
	point347	347										
4220 W NB-2	point568	568										
	point1133	1133										
	point1134	1134										
	point1128	1128										
	point342	342										
	point717	717										
	point954	954										
	point716	716										
	point343	343										
5460 S west side WB	point1003	1003										
	point1002	1002										
5460 S west side EB	point1006	1006										
	point1007	1007										
4420 W NB-3	point1011	1011										
	point1010	1010										
4420 W SB-3	point1012	1012										
	point1013	1013										
5460 S east side WB	point1004	1004										
	point1018	1018										
5460 S east side EB	point1019	1019										
	point1008	1008										
4320 W NB-2	point1017	1017										
	point846	846										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point847	847										
5400 South EB inside	point1069	1069										
	point1214	1214										
	point1215	1215										
	point1216	1216										
	point1071	1071										
	point1073	1073										
	point1195	1195										
	point1196	1196										
	point1197	1197										
	point1198	1198										
	point1118	1118										
	point1122	1122										
	point1123	1123										
	point1182	1182										
	point1180	1180										
	point1124	1124										
	point1125	1125										
	point1152	1152										
5400 South EB middle	point1087	1087										
	point1248	1248										
	point1220	1220										
	point1221	1221										
	point1217	1217										
	point1085	1085										
	point1083	1083										
	point1135	1135										
	point1136	1136										
	point1200	1200										
	point1201	1201										
	point1199	1199										
	point1137	1137										
	point1184	1184										
	point1183	1183										
	point1138	1138										
	point1139	1139										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

	point1150	1150										
5400 S WB outside to 4270 W	point1158	1158										
	point1044	1044										
	point1099	1099										
	point1043	1043										
	point1042	1042										
	point1167	1167										
	point1168	1168										
	point1036	1036										
	point1037	1037										
	point1187	1187										
	point1038	1038										
	point1039	1039										
	point1031	1031										
	point1024	1024										
	point1025	1025										
	point1026	1026										
	point1028	1028										
	point1029	1029										
5400 S WB middle to 4270 W	point1159	1159										
	point1103	1103										
	point1104	1104										
	point1102	1102										
	point1169	1169										
	point1170	1170										
	point1171	1171										
	point1172	1172										
	point1100	1100										
	point1188	1188										
	point1189	1189										
	point1101	1101										
	point1051	1051										
	point1050	1050										
	point1212	1212										
	point1048	1048										
5400 S WB inside to 4270 W	point1160	1160										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1111	1111										
	point1109	1109										
	point1110	1110										
	point1105	1105										
	point1173	1173										
	point1174	1174										
	point1175	1175										
	point1176	1176										
	point1106	1106										
	point1190	1190										
	point1192	1192										
	point1107	1107										
	point1108	1108										
	point1060	1060										
	point1062	1062										
	point1213	1213										
	point1061	1061										
4320 W SB-2-4320 W SB-2	point855	855										
	point931	931										
	point1162	1162										
	point932	932										
	point934	934										
	point1161	1161										
	point933	933										
	point866	866										
	point1014	1014										
	point1015	1015										
4420 W SB-2	point747	747										
	point749	749										
	point751	751										
	point1208	1208										
	point748	748										
	point1206	1206										
	point1207	1207										
	point896	896										
	point374	374										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

5400 S WB outside to 4220 W	point1228	1228										
	point1596	1596										
	point1229	1229										
	point1597	1597										
	point1230	1230										
	point1599	1599										
	point1600	1600										
	point1598	1598										
	point1047	1047										
	point1046	1046										
	point1157	1157										
5400 S WB middle to 4220 W	point1232	1232										
	point1601	1601										
	point1233	1233										
	point1602	1602										
	point1603	1603										
	point1234	1234										
	point1055	1055										
	point1053	1053										
	point1156	1156										
5400 S WB inside to 4220 W	point1236	1236										
	point1604	1604										
	point1237	1237										
	point1605	1605										
	point1606	1606										
	point1238	1238										
	point1056	1056										
	point1057	1057										
	point1155	1155										
5400 S EB inside to 4220 W	point1154	1154										
	point1126	1126										
	point1127	1127										
	point1076	1076										
	point1077	1077										
	point1240	1240										
	point1241	1241										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

5400 S EB middle to 4220 W	point1151	1151										
	point1140	1140										
	point1141	1141										
	point1142	1142										
	point1082	1082										
	point1079	1079										
	point1242	1242										
	point1243	1243										
5400 S EB outside to 4220 W	point1153	1153										
	point1148	1148										
	point1149	1149										
	point1096	1096										
	point1097	1097										
	point1245	1245										
	point1246	1246										
5400 South to 4015 WB outside-2	point1252	1252										
	point1654	1654										
	point6	6										
	point5	5										
5400 South to 4015 WB middle-2	point1253	1253										
	point1655	1655										
	point14	14										
	point13	13										
5400 S to 4015 WB inside-2	point1254	1254										
	point1656	1656										
	point22	22										
	point21	21										
4015 W SB	point1262	1262										
	point1624	1624										
	point1625	1625										
	point1626	1626										
	point1622	1622										
	point1636	1636										
	point1635	1635										
	point1611	1611										
	point1263	1263										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1264	1264										
	point1265	1265										
4015 W SB inside	point1266	1266										
	point1613	1613										
	point1614	1614										
	point1615	1615										
	point1612	1612										
	point1633	1633										
	point1634	1634										
	point1610	1610										
	point1609	1609										
	point1267	1267										
	point1268	1268										
	point1269	1269										
4015 W NB inside	point1270	1270										
	point1574	1574										
	point1572	1572										
	point1271	1271										
	point1272	1272										
	point1273	1273										
4015 W NB outside	point1274	1274										
	point1577	1577										
	point1576	1576										
	point1573	1573										
	point1568	1568										
	point1275	1275										
	point1276	1276										
	point1277	1277										
4015 W NB right turn	point1278	1278										
	point1701	1701										
	point1702	1702										
	point1651	1651										
	point1652	1652										
	point1653	1653										
	point1279	1279										
5515 S WB	point1333	1333										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1570	1570										
4015 W NB outside-3	point1360	1360										
	point1361	1361										
4015 W NB inside-3	point1364	1364										
	point1365	1365										
5515 S EB	point1367	1367										
	point1366	1370										
4015 W SB outside-2	point1369	1369										
	point1368	1368										
4015 W SB inside-2	point1371	1371										
	point1370	1370										
4015 W SB outside-3	point1464	1464										
	point1463	1463										
4015 W SB inside-4	point1465	1465										
	point1466	1466										
4015 W NB outside-2	point1374	1374										
	point1642	1642										
	point1641	1641										
	point1640	1640										
	point1619	1619										
	point1621	1621										
	point1620	1620										
	point1607	1607										
	point1548	1548										
	point1549	1549										
	point1550	1550										
	point1551	1551										
	point1552	1552										
	point1555	1555										
	point1556	1556										
	point1391	1391										
	point1390	1390										
Sams Blvd EB-2	point1437	1437										
	point1441	1441										
4015 W NB inside-2	point1372	1372										
	point1637	1637										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1638	1638										
	point1639	1639										
	point1618	1618										
	point1616	1616										
	point1617	1617										
	point1608	1608										
	point1547	1547										
	point1546	1546										
	point1545	1545										
	point1544	1544										
	point1543	1543										
	point1541	1541										
	point1540	1540										
	point1389	1389										
	point1388	1388										
4015 W NB U turn	point1431	1431										
	point1581	1581										
	point1430	1430										
	point1429	1429										
	point1428	1428										
	point1582	1582										
	point1427	1427										
	point1426	1426										
	point1425	1425										
	point1424	1424										
	point1423	1423										
	point1422	1422										
	point1421	1421										
	point1420	1420										
	point1419	1419										
	point1418	1418										
	point1417	1417										
	point1416	1416										
	point1415	1415										
	point1414	1414										
	point1413	1413										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1491	1491										
	point1580	1580										
	point1492	1492										
Sams Blvd WB	point1588	1588										
	point1434	1434										
	point1435	1435										
	point1436	1436										
4015 W SB inside-3	point1589	1589										
	point1467	1467										
	point1585	1585										
	point1584	1584										
	point1468	1468										
	point1469	1469										
	point1470	1470										
	point1471	1471										
	point1473	1473										
	point1474	1474										
	point1475	1475										
4015 W SB outside-4	point1590	1590										
	point1583	1583										
	point1462	1462										
	point1461	1461										
	point1460	1460										
	point1459	1459										
	point1457	1457										
	point1456	1456										
4015 W NB U turn merge	point1591	1591										
	point1480	1480										
	point1481	1481										
	point1482	1482										
	point1483	1483										
	point1484	1484										
	point1485	1485										
	point1486	1486										
	point1487	1487										
	point1488	1488										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

	point1489	1489										
	point1490	1490										
Sams Blvd EB	point1439	1439										
	point1476	1476										
	point1477	1477										
	point1478	1478										
	point1479	1479										
4015 W SB left turn	point1592	1592										
	point1515	1515										
	point1516	1516										
	point1517	1517										
	point1518	1518										
	point1519	1519										
	point1520	1520										
	point1521	1521										
	point1522	1522										
	point1523	1523										
	point1524	1524										
	point1525	1525										
	point1526	1526										
	point1527	1527										
	point1528	1528										
	point1529	1529										
	point1530	1530										
	point1531	1531										
	point1532	1532										
	point1533	1533										
	point1534	1534										
4015 W SB U turn	point1493	1493										
	point1494	1494										
	point1495	1495										
	point1496	1496										
	point1497	1497										
	point1498	1498										
	point1499	1499										
	point1500	1500										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

	point1501	1501										
	point1502	1502										
	point1503	1503										
	point1504	1504										
	point1505	1505										
	point1506	1506										
	point1507	1507										
	point1508	1508										
	point1509	1509										
	point1510	1510										
	point1511	1511										
	point1512	1512										
	point1513	1513										
	point1535	1535										
	point1536	1536										
	point1537	1537										
	point1569	1569										
4015 W SB U turn merge	point1593	1593										
	point1538	1538										
5515 S WB right	point1595	1595										
	point1332	1332										
	point1331	1331										
	point1330	1330										
	point1329	1329										
	point1328	1328										
	point1327	1327										
	point1326	1326										
5515 S left onto 4015	point1334	1334										
	point1335	1335										
	point1336	1336										
	point1337	1337										
	point1338	1338										
	point1339	1339										
	point1340	1340										
	point1341	1341										
	point1342	1342										

INPUT: TRAFFIC FOR LAeq1h Volumes
5400 South

	point1343	1343										
	point1344	1344										
	point1345	1345										
	point1346	1346										
	point1347	1347										
	point1348	1348										
	point1349	1349										
	point1350	1350										
	point1575	1575										
	point1351	1351										
	point1352	1352										
	point1353	1353										
	point1571	1571										
	point1354	1354										
	point1355	1355										
	point1356	1356										
	point1357	1357										
	point1358	1358										
	point1363	1363										
Sams Blvd Left	point1643	1643										
	point1594	1594										
	point1442	1442										
	point1443	1443										
	point1444	1444										
	point1445	1445										
	point1446	1446										
	point1448	1448										
	point1449	1449										
	point1450	1450										
	point1451	1451										
	point1452	1452										
	point1453	1453										
	point1454	1454										
	point1586	1586										
4015 W NB inside-5	point1644	1644										
	point1587	1587										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

5515 S left onto 4015-2	point1645	1645										
	point1362	1362										
Roadway508	point1646	1646										
	point1647	1647										
	point1648	1648										
	point1649	1649										
	point1650	1650										
Roadway510	point1663	1663										
	point1664	1664										
	point1680	1680										
	point1665	1665										
	point1666	1666										
	point1667	1667										
5400 S to 4800 EB outside	point1668	1668										
	point1669	1669										
	point1662	1662										
	point1671	1671										
5400 South EB outside	point1677	1677										
	point1674	1674										
	point1675	1675										
	point1672	1672										
	point1089	1089										
	point1091	1091										
	point1093	1093										
	point1202	1202										
	point1203	1203										
	point1204	1204										
	point1205	1205										
	point1143	1143										
	point1144	1144										
	point1185	1185										
	point1186	1186										
	point1145	1145										
	point1146	1146										
	point1147	1147										
Median Turn Lane	point1068	1665										

INPUT: TRAFFIC FOR LAeq1h Volumes**5400 South**

	point1067	1067										
	point1119	1119										
	point1120	1120										
	point1112	1112										
	point1113	1113										
	point1177	1177										
	point1178	1178										
	point1179	1179										
	point1114	1114										
	point1193	1193										
	point1194	1194										
	point1115	1115										
	point1116	1116										
	point1117	1117										
	point1063	1063										
	point1064	1064										
	point1681	1681										
	point1682	1682										
	point1683	1683										
	point1684	1684										
	point1685	1685										
	point1686	1686										
	point1687	1687										
	point1688	1688										
	point1689	1689										
	point1690	1690										
	point1691	1691										
	point1692	1692										
	point1693	1693										
	point1694	1694										
	point1695	1695										
	point1696	1696										

INPUT: RECEIVERS
5400 South

Jacobs											
DR											
INPUT: RECEIVERS											
PROJECT/CONTRACT:	5400 South										
RUN:	Build										
Receiver											
Name	No.	#DUs	Coordinates (ground)			Height	Input Sound Levels and Criteria				Active
			X	Y	Z	above	Existing	Impact Criteria		NR	in
						Ground	LAeq1h	LAeq1h	Sub'l	Goal	
			ft	ft	ft	ft	dBA	dBA	dB	dB	
R1	170	1	1,499,769.4	7,407,073.0	10.00	4.92	0.00	66	10.0	8.0	
R2	171	1	1,499,861.0	7,407,069.5	10.00	4.92	0.00	66	10.0	8.0	
R3	172	1	1,499,943.4	7,407,075.0	10.00	4.92	0.00	66	10.0	8.0	
R4	173	1	1,499,937.6	7,407,137.0	13.00	4.92	0.00	66	10.0	8.0	
R5	174	1	1,500,037.2	7,407,112.0	15.00	4.92	0.00	66	10.0	8.0	
R6	175	1	1,500,051.0	7,407,067.0	9.00	4.92	0.00	66	10.0	8.0	
R7	176	1	1,499,747.8	7,406,813.0	7.00	4.92	0.00	66	10.0	8.0	
R8	177	1	1,499,770.6	7,406,821.0	7.00	4.92	0.00	66	10.0	8.0	
R9	178	1	1,499,841.5	7,406,772.0	7.00	4.92	0.00	66	10.0	8.0	
R10	179	1	1,499,871.2	7,406,696.5	10.00	4.92	0.00	66	10.0	8.0	
R11	180	1	1,500,531.6	7,407,108.0	0.00	4.92	0.00	66	10.0	8.0	
R12	181	1	1,500,567.0	7,407,061.0	0.00	4.92	0.00	66	10.0	8.0	
R13	182	1	1,500,620.4	7,407,008.5	0.00	4.92	0.00	66	10.0	8.0	
R25	194	1	1,500,610.2	7,407,185.0	0.00	4.92	0.00	66	10.0	8.0	
R26	195	1	1,500,662.8	7,407,138.5	0.00	4.92	0.00	66	10.0	8.0	
R27	196	1	1,500,730.2	7,407,108.0	0.00	4.92	0.00	66	10.0	8.0	
R28	197	1	1,500,793.8	7,407,090.0	0.00	4.92	0.00	66	10.0	8.0	
R29	198	1	1,500,871.4	7,407,100.0	0.00	4.92	0.00	66	10.0	8.0	
R30	199	1	1,500,899.6	7,407,098.0	0.00	4.92	0.00	66	10.0	8.0	
R31	200	1	1,500,996.4	7,407,151.5	0.00	4.92	0.00	66	10.0	8.0	
R32	201	1	1,501,011.5	7,407,176.0	0.00	4.92	0.00	66	10.0	8.0	
R40	202	1	1,501,300.9	7,407,118.5	0.00	4.92	0.00	66	10.0	8.0	

INPUT: RECEIVERS**5400 South**

R39	203	1	1,501,294.9	7,407,190.0	0.00	4.92	0.00	66	10.0	8.0	
R33	204	1	1,501,067.0	7,407,199.0	0.00	4.92	0.00	66	10.0	8.0	
R38	205	1	1,501,297.9	7,407,256.5	0.00	4.92	0.00	66	10.0	8.0	
R37	206	1	1,501,252.5	7,407,344.0	0.00	4.92	0.00	66	10.0	8.0	
R34	207	1	1,501,102.2	7,407,254.5	0.00	4.92	0.00	66	10.0	8.0	
R35	208	1	1,501,153.8	7,407,286.5	0.00	4.92	0.00	66	10.0	8.0	
R36	209	1	1,501,206.1	7,407,325.0	0.00	4.92	0.00	66	10.0	8.0	
R41	211	1	1,501,297.1	7,407,065.0	0.00	4.92	0.00	66	10.0	8.0	
R42	213	1	1,501,442.8	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	
R43	214	1	1,501,505.8	7,406,979.0	0.00	4.92	0.00	66	10.0	8.0	
R44	215	1	1,501,568.8	7,406,985.5	0.00	4.92	0.00	66	10.0	8.0	
R45	216	1	1,501,627.9	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	
R46	217	1	1,501,688.2	7,406,981.5	0.00	4.92	0.00	66	10.0	8.0	
R47	218	1	1,501,746.0	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	
R48	219	1	1,501,809.1	7,406,977.5	0.00	4.92	0.00	66	10.0	8.0	
R49	220	1	1,501,875.0	7,406,976.5	0.00	4.92	0.00	66	10.0	8.0	
R50	221	1	1,501,934.6	7,406,976.0	0.00	4.92	0.00	66	10.0	8.0	
R51	222	1	1,501,994.9	7,406,980.0	0.00	4.92	0.00	66	10.0	8.0	
R52	223	1	1,502,056.0	7,406,977.0	0.00	4.92	0.00	66	10.0	8.0	
R53	224	1	1,502,121.2	7,406,977.0	0.00	4.92	0.00	66	10.0	8.0	
R54	225	1	1,502,179.4	7,406,973.0	0.00	4.92	0.00	66	10.0	8.0	
R55	226	1	1,502,241.4	7,406,977.0	0.00	4.92	0.00	66	10.0	8.0	
R56	227	1	1,502,304.6	7,406,971.0	0.00	4.92	0.00	66	10.0	8.0	
R57	228	1	1,502,355.9	7,406,968.0	0.00	4.92	0.00	66	10.0	8.0	
R58	231	1	1,501,444.4	7,407,087.5	-5.00	4.92	0.00	66	10.0	8.0	
R59	232	1	1,501,501.6	7,407,103.0	-5.00	4.92	0.00	66	10.0	8.0	
R60	233	1	1,501,567.9	7,407,106.5	-5.00	4.92	0.00	66	10.0	8.0	
R61	234	1	1,501,630.0	7,407,104.0	-5.00	4.92	0.00	66	10.0	8.0	
R62	235	1	1,501,686.8	7,407,098.5	-5.00	4.92	0.00	66	10.0	8.0	
R63	236	1	1,501,744.9	7,407,096.0	-5.00	4.92	0.00	66	10.0	8.0	
R64	237	1	1,501,810.2	7,407,100.5	-5.00	4.92	0.00	66	10.0	8.0	
R65	238	1	1,501,871.5	7,407,101.5	-5.00	4.92	0.00	66	10.0	8.0	
R66	240	1	1,501,934.1	7,407,096.0	-5.00	4.92	0.00	66	10.0	8.0	
R67	241	1	1,502,004.6	7,407,086.0	-5.00	4.92	0.00	66	10.0	8.0	
R68	242	1	1,502,054.1	7,407,098.5	-5.00	4.92	0.00	66	10.0	8.0	
R69	243	1	1,502,124.1	7,407,100.5	-5.00	4.92	0.00	66	10.0	8.0	

INPUT: RECEIVERS**5400 South**

R70	245	1	1,502,182.9	7,407,090.0	-5.00	4.92	0.00	66	10.0	8.0
R71	246	1	1,502,239.6	7,407,084.5	-5.00	4.92	0.00	66	10.0	8.0
R72	247	1	1,502,300.8	7,407,091.0	-5.00	4.92	0.00	66	10.0	8.0
R73	248	1	1,502,351.1	7,407,083.5	-5.00	4.92	0.00	66	10.0	8.0
R89	267	1	1,501,711.0	7,406,703.5	6.00	4.92	0.00	66	10.0	8.0
R90	268	1	1,501,788.5	7,406,707.5	6.00	4.92	0.00	66	10.0	8.0
R91	269	1	1,501,858.6	7,406,711.0	6.00	4.92	0.00	66	10.0	8.0
R92	270	1	1,501,921.0	7,406,701.0	6.00	4.92	0.00	66	10.0	8.0
R93	271	1	1,501,973.9	7,406,690.0	6.00	4.92	0.00	66	10.0	8.0
R94	272	1	1,502,058.8	7,406,696.5	6.00	4.92	0.00	66	10.0	8.0
R95	273	1	1,502,124.0	7,406,693.0	6.00	4.92	0.00	66	10.0	8.0
R96	274	1	1,502,175.5	7,406,723.0	6.00	4.92	0.00	66	10.0	8.0
R97	275	1	1,502,261.5	7,406,690.5	6.00	4.92	0.00	66	10.0	8.0
R98	276	1	1,502,332.5	7,406,706.0	6.00	4.92	0.00	66	10.0	8.0
R99	277	1	1,502,403.0	7,406,697.0	6.00	4.92	0.00	66	10.0	8.0
R100	278	1	1,502,467.0	7,406,694.0	6.00	4.92	0.00	66	10.0	8.0
R101	279	1	1,502,531.1	7,406,679.5	6.00	4.92	0.00	66	10.0	8.0
R102	280	1	1,502,603.2	7,406,702.5	6.00	4.92	0.00	66	10.0	8.0
R103	283	1	1,502,489.1	7,407,137.0	-5.00	4.92	0.00	66	10.0	8.0
R104	286	1	1,502,576.8	7,407,142.5	-5.00	4.92	0.00	66	10.0	8.0
R105	304	1	1,502,765.4	7,406,967.0	0.00	4.92	0.00	66	10.0	8.0
R106	305	1	1,502,799.9	7,406,976.5	0.00	4.92	0.00	66	10.0	8.0
R107	306	1	1,502,903.2	7,406,976.5	0.00	4.92	0.00	66	10.0	8.0
R108	307	1	1,503,146.1	7,406,975.5	0.00	4.92	0.00	66	10.0	8.0
R109	308	1	1,502,734.2	7,407,088.5	-3.00	4.92	0.00	66	10.0	8.0
R110	309	1	1,502,831.0	7,407,092.0	-3.00	4.92	0.00	66	10.0	8.0
R111	310	1	1,502,904.9	7,407,097.0	0.00	4.92	0.00	66	10.0	8.0
R120	333	1	1,502,728.1	7,406,701.5	6.00	4.92	0.00	66	10.0	8.0
R121	334	1	1,502,787.5	7,406,696.5	6.00	4.92	0.00	66	10.0	8.0
R122	335	1	1,502,898.2	7,406,684.5	6.00	4.92	0.00	66	10.0	8.0
R123	336	1	1,502,970.8	7,406,698.5	6.00	4.92	0.00	66	10.0	8.0
R124	337	1	1,503,040.4	7,406,706.0	6.00	4.92	0.00	66	10.0	8.0
R125	338	1	1,503,078.6	7,406,686.5	6.00	4.92	0.00	66	10.0	8.0
R126	339	1	1,503,144.8	7,406,688.0	6.00	4.92	0.00	66	10.0	8.0
R127	340	1	1,503,278.5	7,406,689.5	6.00	4.92	0.00	66	10.0	8.0
R128	341	1	1,503,279.9	7,406,764.0	3.00	4.92	0.00	66	10.0	8.0

INPUT: RECEIVERS**5400 South**

R129	351	1	1,503,425.9	7,406,980.5	0.00	4.92	0.00	66	10.0	8.0	
R130	352	1	1,503,626.1	7,406,988.5	0.00	4.92	0.00	66	10.0	8.0	
R135	357	1	1,503,378.9	7,406,744.0	3.00	4.92	0.00	66	10.0	8.0	
R137	358	1	1,503,377.9	7,406,669.5	0.00	4.92	0.00	66	10.0	8.0	
R136	361	1	1,503,610.2	7,406,741.5	6.00	4.92	0.00	66	10.0	8.0	
R138	362	1	1,503,600.2	7,406,677.0	0.00	4.92	0.00	66	10.0	8.0	
R139	364	1	1,503,857.2	7,407,197.5	0.00	4.92	0.00	66	10.0	8.0	
R140	366	1	1,504,394.5	7,406,965.0	0.00	4.92	0.00	66	10.0	8.0	
R74	368	1	1,501,525.2	7,406,795.5	5.00	4.92	0.00	66	10.0	8.0	
R141	370	1	1,505,243.4	7,406,381.5	0.00	4.92	0.00	66	10.0	8.0	Y
R146	371	1	1,505,183.9	7,406,387.0	0.00	4.92	0.00	66	10.0	8.0	Y
R142	372	1	1,505,247.1	7,406,274.0	0.00	4.92	0.00	66	10.0	8.0	Y
R147	373	1	1,505,157.4	7,406,277.5	0.00	4.92	0.00	66	10.0	8.0	Y
R143	374	1	1,505,240.5	7,406,154.5	0.00	4.92	0.00	66	10.0	8.0	Y
R148	375	1	1,505,162.1	7,406,137.0	0.00	4.92	0.00	66	10.0	8.0	Y
R144	376	1	1,505,232.0	7,406,005.5	0.00	4.92	0.00	66	10.0	8.0	Y
R149	377	1	1,505,183.9	7,405,970.5	0.00	4.92	0.00	66	10.0	8.0	Y
R145	378	1	1,505,240.5	7,405,922.5	0.00	4.92	0.00	66	10.0	8.0	Y
R150	379	1	1,505,362.5	7,405,930.0	0.00	4.92	0.00	66	10.0	8.0	Y
R151	380	1	1,505,362.5	7,405,868.5	0.00	4.92	0.00	66	10.0	8.0	Y
R152	381	1	1,504,705.8	7,407,834.5	0.00	4.92	0.00	66	10.0	8.0	Y
R153	382	1	1,504,438.4	7,407,632.5	0.00	4.92	0.00	66	10.0	8.0	Y
R156	386	1	1,505,628.0	7,407,859.0	0.00	4.92	0.00	66	10.0	8.0	Y
R155	387	1	1,505,629.4	7,407,796.5	0.00	4.92	0.00	66	10.0	8.0	Y
R154	388	1	1,505,625.1	7,407,745.5	0.00	4.92	0.00	66	10.0	8.0	Y
R157	391	1	1,505,636.5	7,408,062.5	0.00	4.92	0.00	66	10.0	8.0	Y
R158	392	1	1,505,626.6	7,408,136.0	0.00	4.92	0.00	66	10.0	8.0	Y
R159	393	1	1,505,615.2	7,408,237.5	0.00	4.92	0.00	66	10.0	8.0	Y

INPUT: BARRIERS

5400 South

Jacobs					12 April 2011														
DR					TNM 2.5														
INPUT: BARRIERS																			
PROJECT/CONTRACT:		5400 South																	
RUN:		Build																	
Barrier										Points									
Name	Type	Height		If Wall	If Berm			Add'tnl		Name	No.	Coordinates (bottom)			Height	Segment			
		Min	Max	\$ per	\$ per	Top	Run:Rise	\$ per				X	Y	Z	at	Seg	Ht	Perturbs	On
				Unit	Unit	Width		Unit							Point	Incre-	#Up	#Dn	Struct?
				Area	Vol.			Length								ment			Reflec-
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft				ft	ft	ft	ft	ft			tions?
Barrier2	W	0.00	99.99	0.00				0.00		point1	1	1,501,321.8	7,407,049.5	0.00	8.00	2.00	2	0	
										point2	2	1,501,256.8	7,407,040.0	0.00	8.00	2.00	2	0	
										point3	3	1,500,665.4	7,407,047.0	0.00	8.00	2.00	2	0	
										point4	4	1,500,635.6	7,406,980.5	0.00	8.00				
Barrier3	W	0.00	99.99	0.00				0.00		point5	5	1,503,293.4	7,406,793.5	0.00	8.00	2.00	2	0	
										point6	6	1,503,200.0	7,406,793.5	0.00	8.00	2.00	2	0	
										point7	7	1,503,139.1	7,406,750.5	0.00	8.00	2.00	2	0	
										point8	8	1,502,708.8	7,406,754.5	0.00	8.00				
Barrier4	W	0.00	99.99	0.00				0.00		point9	9	1,503,355.6	7,406,761.0	0.00	8.00	2.00	2	0	
										point10	10	1,503,620.9	7,406,761.0	0.00	8.00				

INPUT: BARRIERS

5400 South

Jacobs					12 April 2011														
SWA					TNM 2.5														
INPUT: BARRIERS																			
PROJECT/CONTRACT:		5400 South																	
RUN:		Feb32011																	
Barrier										Points									
Name	Type	Height		If Wall	If Berm			Add'tnl	Name	No.	Coordinates (bottom)			Height	Segment				
		Min	Max	\$ per	\$ per	Top	Run:Rise	\$ per			X	Y	Z	at	Seg Ht	Perturbs	On	Important	
				Unit	Unit	Width		Unit						Point	Incre-	#Up	#Dn	Struct?	Reflec-
				Area	Vol.			Length							ment				tions?
		ft	ft	\$/sq ft	\$/cu yd	ft	ft:ft	\$/ft			ft	ft	ft	ft	ft				
barrier1	W	0.00	99.99	0.00				0.00	point16	16	1,500,621.8	7,406,985.0	0.00	8.00	2.00	2	0		
									point17	17	1,500,644.9	7,406,974.5	0.00	8.00	2.00	2	0		
									point18	18	1,500,889.4	7,406,972.5	0.00	8.00	2.00	2	0		
									point19	19	1,501,322.1	7,406,967.5	0.00	8.00					
Barrier2	W	0.00	99.99	0.00				0.00	point20	20	1,502,716.2	7,406,837.0	0.00	8.00	2.00	2	0		
									point21	21	1,503,295.5	7,406,833.0	0.00	8.00					
Barrier9	W	0.00	99.99	0.00				0.00	point22	22	1,503,372.9	7,406,833.0	0.00	8.00	2.00	2	0		
									point23	23	1,503,621.1	7,406,833.0	0.00	8.00					

INPUT: BUILDING ROWS
5400 South

Jacobs					12 April 2011	
DR					TNM 2.5	
INPUT: BUILDING ROWS						
PROJECT/CONTRACT:	5400 South					
RUN:	Build					
Building Row			Points			
Name	Average Height	Building Percent	No.	Coordinates (ground)		
	ft	%		X	Y	Z
				ft	ft	ft
Building1	15.00	69	1	1,501,395.0	7,407,014.5	0.00
			2	1,502,362.8	7,407,011.0	0.00
Building6	15.00	69	13	1,502,726.9	7,407,014.5	0.00
			36	1,502,907.4	7,407,019.5	0.00
Building7	20.00	80	15	1,502,490.2	7,407,056.5	0.00
			16	1,502,623.4	7,407,056.5	0.00
Building8	15.00	72	17	1,499,949.2	7,407,100.0	10.00
			18	1,499,712.4	7,407,102.5	10.00
Building11	15.00	80	21	1,500,039.4	7,407,094.5	9.00
			22	1,500,099.0	7,407,094.5	9.00
Building16	15.00	69	28	1,501,258.9	7,407,051.5	0.00
			29	1,501,258.9	7,407,313.5	0.00
Building18	15.00	72	32	7,407,128.0	-3.0	0.00
			33	7,407,131.0	0.0	0.00
Building19	15.00	67	34	1,500,535.0	7,407,157.0	0.00
			35	1,500,650.0	7,407,024.5	0.00
Building23	15.00	50	43	1,505,480.0	7,408,262.0	0.00
			44	1,505,477.5	7,407,669.5	0.00

RESULTS: SOUND LEVELS
5400 South

Jacobs													
DR													
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:													
RUN:													
BARRIER DESIGN:													
ATMOSPHERICS:													
Receiver													
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over Calculated	existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
R1	170	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0	
R2	171	1	0.0	65.3	66	65.3	10	----	65.3	0.0	8	-8.0	
R3	172	1	0.0	66.6	66	66.6	10	Snd Lvl	66.6	0.0	8	-8.0	
R4	173	1	0.0	63.0	66	63.0	10	----	63.0	0.0	8	-8.0	
R5	174	1	0.0	65.2	66	65.2	10	----	65.2	0.0	8	-8.0	
R6	175	1	0.0	66.5	66	66.5	10	Snd Lvl	66.5	0.0	8	-8.0	
R7	176	1	0.0	65.2	66	65.2	10	----	65.2	0.0	8	-8.0	
R8	177	1	0.0	66.1	66	66.1	10	Snd Lvl	66.1	0.0	8	-8.0	
R9	178	1	0.0	64.4	66	64.4	10	----	64.4	0.0	8	-8.0	
R10	179	1	0.0	62.7	66	62.7	10	----	62.7	0.0	8	-8.0	
R11	180	1	0.0	65.9	66	65.9	10	----	65.9	0.0	8	-8.0	
R12	181	1	0.0	67.3	66	67.3	10	Snd Lvl	67.3	0.0	8	-8.0	
R13	182	1	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0	
R14	183	1	0.0	70.7	66	70.7	10	Snd Lvl	70.7	0.0	8	-8.0	
R15	184	1	0.0	71.1	66	71.1	10	Snd Lvl	71.1	0.0	8	-8.0	
R16	185	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0	
R17	186	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0	
R18	187	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0	
R19	188	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0	
R20	189	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0	
R21	190	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0	
R22	191	1	0.0	69.6	66	69.6	10	Snd Lvl	69.6	0.0	8	-8.0	
R23	192	1	0.0	68.5	66	68.5	10	Snd Lvl	68.5	0.0	8	-8.0	
R24	193	1	0.0	68.5	66	68.5	10	Snd Lvl	68.5	0.0	8	-8.0	

RESULTS: SOUND LEVELS
5400 South

R25	194	1	0.0	60.3	66	60.3	10	----	60.3	0.0	8	-8.0
R26	195	1	0.0	61.1	66	61.1	10	----	61.1	0.0	8	-8.0
R27	196	1	0.0	61.3	66	61.3	10	----	61.3	0.0	8	-8.0
R28	197	1	0.0	61.1	66	61.1	10	----	61.1	0.0	8	-8.0
R29	198	1	0.0	60.4	66	60.4	10	----	60.4	0.0	8	-8.0
R30	199	1	0.0	60.3	66	60.3	10	----	60.3	0.0	8	-8.0
R31	200	1	0.0	58.8	66	58.8	10	----	58.8	0.0	8	-8.0
R32	201	1	0.0	58.2	66	58.2	10	----	58.2	0.0	8	-8.0
R40	202	1	0.0	61.4	66	61.4	10	----	61.4	0.0	8	-8.0
R39	203	1	0.0	59.9	66	59.9	10	----	59.9	0.0	8	-8.0
R33	204	1	0.0	57.6	66	57.6	10	----	57.6	0.0	8	-8.0
R38	205	1	0.0	59.7	66	59.7	10	----	59.7	0.0	8	-8.0
R37	206	1	0.0	56.2	66	56.2	10	----	56.2	0.0	8	-8.0
R34	207	1	0.0	56.3	66	56.3	10	----	56.3	0.0	8	-8.0
R35	208	1	0.0	55.7	66	55.7	10	----	55.7	0.0	8	-8.0
R36	209	1	0.0	55.3	66	55.3	10	----	55.3	0.0	8	-8.0
R41	211	1	0.0	61.9	66	61.9	10	----	61.9	0.0	8	-8.0
R42	213	1	0.0	68.8	66	68.8	10	Snd Lvl	68.8	0.0	8	-8.0
R43	214	1	0.0	68.7	66	68.7	10	Snd Lvl	68.7	0.0	8	-8.0
R44	215	1	0.0	67.6	66	67.6	10	Snd Lvl	67.6	0.0	8	-8.0
R45	216	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
R46	217	1	0.0	68.1	66	68.1	10	Snd Lvl	68.1	0.0	8	-8.0
R47	218	1	0.0	68.3	66	68.3	10	Snd Lvl	68.3	0.0	8	-8.0
R48	219	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R49	220	1	0.0	68.7	66	68.7	10	Snd Lvl	68.7	0.0	8	-8.0
R50	221	1	0.0	68.7	66	68.7	10	Snd Lvl	68.7	0.0	8	-8.0
R51	222	1	0.0	68.0	66	68.0	10	Snd Lvl	68.0	0.0	8	-8.0
R52	223	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
R53	224	1	0.0	68.3	66	68.3	10	Snd Lvl	68.3	0.0	8	-8.0
R54	225	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
R55	226	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0
R56	227	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0
R57	228	1	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
R58	231	1	0.0	59.8	66	59.8	10	----	59.8	0.0	8	-8.0
R59	232	1	0.0	58.1	66	58.1	10	----	58.1	0.0	8	-8.0
R60	233	1	0.0	57.3	66	57.3	10	----	57.3	0.0	8	-8.0
R61	234	1	0.0	57.1	66	57.1	10	----	57.1	0.0	8	-8.0
R62	235	1	0.0	57.0	66	57.0	10	----	57.0	0.0	8	-8.0
R63	236	1	0.0	57.0	66	57.0	10	----	57.0	0.0	8	-8.0
R64	237	1	0.0	56.8	66	56.8	10	----	56.8	0.0	8	-8.0
R65	238	1	0.0	56.9	66	56.9	10	----	56.9	0.0	8	-8.0

RESULTS: SOUND LEVELS
5400 South

R66	240	1	0.0	56.9	66	56.9	10	----	56.9	0.0	8	-8.0
R67	241	1	0.0	57.1	66	57.1	10	----	57.1	0.0	8	-8.0
R68	242	1	0.0	56.9	66	56.9	10	----	56.9	0.0	8	-8.0
R69	243	1	0.0	56.9	66	56.9	10	----	56.9	0.0	8	-8.0
R70	245	1	0.0	57.2	66	57.2	10	----	57.2	0.0	8	-8.0
R71	246	1	0.0	57.7	66	57.7	10	----	57.7	0.0	8	-8.0
R72	247	1	0.0	58.0	66	58.0	10	----	58.0	0.0	8	-8.0
R73	248	1	0.0	60.0	66	60.0	10	----	60.0	0.0	8	-8.0
R74	250	1	0.0	62.3	66	62.3	10	----	62.3	0.0	8	-8.0
R75	251	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
R76	252	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
R77	253	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
R78	254	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
R79	255	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
R80	256	1	0.0	68.8	66	68.8	10	Snd Lvl	68.8	0.0	8	-8.0
R81	257	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R82	258	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
R83	259	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
R84	260	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R85	262	1	0.0	68.4	66	68.4	10	Snd Lvl	68.4	0.0	8	-8.0
R86	264	1	0.0	69.0	66	69.0	10	Snd Lvl	69.0	0.0	8	-8.0
R87	265	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R88	266	1	0.0	68.8	66	68.8	10	Snd Lvl	68.8	0.0	8	-8.0
R89	267	1	0.0	58.3	66	58.3	10	----	58.3	0.0	8	-8.0
R90	268	1	0.0	58.5	66	58.5	10	----	58.5	0.0	8	-8.0
R91	269	1	0.0	58.6	66	58.6	10	----	58.6	0.0	8	-8.0
R92	270	1	0.0	58.3	66	58.3	10	----	58.3	0.0	8	-8.0
R93	271	1	0.0	58.0	66	58.0	10	----	58.0	0.0	8	-8.0
R94	272	1	0.0	58.2	66	58.2	10	----	58.2	0.0	8	-8.0
R95	273	1	0.0	58.1	66	58.1	10	----	58.1	0.0	8	-8.0
R96	274	1	0.0	59.2	66	59.2	10	----	59.2	0.0	8	-8.0
R97	275	1	0.0	58.2	66	58.2	10	----	58.2	0.0	8	-8.0
R98	276	1	0.0	58.9	66	58.9	10	----	58.9	0.0	8	-8.0
R99	277	1	0.0	58.7	66	58.7	10	----	58.7	0.0	8	-8.0
R100	278	1	0.0	58.9	66	58.9	10	----	58.9	0.0	8	-8.0
R101	279	1	0.0	58.7	66	58.7	10	----	58.7	0.0	8	-8.0
R102	280	1	0.0	60.2	66	60.2	10	----	60.2	0.0	8	-8.0
R103	283	1	0.0	58.5	66	58.5	10	----	58.5	0.0	8	-8.0
R104	286	1	0.0	59.2	66	59.2	10	----	59.2	0.0	8	-8.0
R105	304	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
R106	305	1	0.0	67.9	66	67.9	10	Snd Lvl	67.9	0.0	8	-8.0

RESULTS: SOUND LEVELS
5400 South

R107	306	1	0.0	67.8	66	67.8	10	Snd Lvl	67.8	0.0	8	-8.0
R108	307	1	0.0	67.7	66	67.7	10	Snd Lvl	67.7	0.0	8	-8.0
R109	308	1	0.0	61.4	66	61.4	10	----	61.4	0.0	8	-8.0
R110	309	1	0.0	58.8	66	58.8	10	----	58.8	0.0	8	-8.0
R111	310	1	0.0	59.5	66	59.5	10	----	59.5	0.0	8	-8.0
R112	324	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
R113	325	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
R114	326	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R115	327	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0
R116	328	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
R117	329	1	0.0	69.2	66	69.2	10	Snd Lvl	69.2	0.0	8	-8.0
R118	330	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
R119	331	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
R120	333	1	0.0	60.5	66	60.5	10	----	60.5	0.0	8	-8.0
R121	334	1	0.0	59.7	66	59.7	10	----	59.7	0.0	8	-8.0
R122	335	1	0.0	59.1	66	59.1	10	----	59.1	0.0	8	-8.0
R123	336	1	0.0	59.6	66	59.6	10	----	59.6	0.0	8	-8.0
R124	337	1	0.0	59.8	66	59.8	10	----	59.8	0.0	8	-8.0
R125	338	1	0.0	59.2	66	59.2	10	----	59.2	0.0	8	-8.0
R126	339	1	0.0	59.3	66	59.3	10	----	59.3	0.0	8	-8.0
R127	340	1	0.0	60.1	66	60.1	10	----	60.1	0.0	8	-8.0
R128	341	1	0.0	61.9	66	61.9	10	----	61.9	0.0	8	-8.0
R129	351	1	0.0	66.8	66	66.8	10	Snd Lvl	66.8	0.0	8	-8.0
R130	352	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
R131	353	1	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
R132	354	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
R133	355	1	0.0	69.3	66	69.3	10	Snd Lvl	69.3	0.0	8	-8.0
R134	356	1	0.0	69.4	66	69.4	10	Snd Lvl	69.4	0.0	8	-8.0
R135	357	1	0.0	61.1	66	61.1	10	----	61.1	0.0	8	-8.0
R137	358	1	0.0	58.5	66	58.5	10	----	58.5	0.0	8	-8.0
R136	361	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
R138	362	1	0.0	60.7	66	60.7	10	----	60.7	0.0	8	-8.0
R139	364	1	0.0	59.2	66	59.2	10	----	59.2	0.0	8	-8.0
R140	366	1	0.0	68.6	66	68.6	10	Snd Lvl	68.6	0.0	8	-8.0
R141	368	1	0.0	65.4	66	65.4	10	----	65.4	0.0	8	-8.0
R146	369	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0
R142	370	1	0.0	65.6	66	65.6	10	----	65.6	0.0	8	-8.0
R147	371	1	0.0	58.9	66	58.9	10	----	58.9	0.0	8	-8.0
R143	372	1	0.0	64.9	66	64.9	10	----	64.9	0.0	8	-8.0
R148	373	1	0.0	58.7	66	58.7	10	----	58.7	0.0	8	-8.0
R144	374	1	0.0	63.4	66	63.4	10	----	63.4	0.0	8	-8.0

RESULTS: SOUND LEVELS
5400 South

R149	375	1	0.0	59.2	66	59.2	10	----	59.2	0.0	8	-8.0
R145	376	1	0.0	63.7	66	63.7	10	----	63.7	0.0	8	-8.0
R150	377	1	0.0	64.5	66	64.5	10	----	64.5	0.0	8	-8.0
R151	378	1	0.0	64.1	66	64.1	10	----	64.1	0.0	8	-8.0
R152	380	1	0.0	50.2	66	50.2	10	----	50.2	0.0	8	-8.0
R153	381	1	0.0	51.3	66	51.3	10	----	51.3	0.0	8	-8.0
R157	383	1	0.0	52.2	66	52.2	10	----	52.2	0.0	8	-8.0
R156	384	1	0.0	52.7	66	52.7	10	----	52.7	0.0	8	-8.0
R155	385	1	0.0	53.2	66	53.2	10	----	53.2	0.0	8	-8.0
R154	386	1	0.0	52.8	66	52.8	10	----	52.8	0.0	8	-8.0
R159	387	1	0.0	50.2	66	50.2	10	----	50.2	0.0	8	-8.0
R160	388	1	0.0	49.6	66	49.6	10	----	49.6	0.0	8	-8.0
R161	389	1	0.0	48.7	66	48.7	10	----	48.7	0.0	8	-8.0
R162	390	1	0.0	47.6	66	47.6	10	----	47.6	0.0	8	-8.0
R158	391	1	0.0	49.0	66	49.0	10	----	49.0	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		162	0.0	0.0	0.0							
All Impacted		65	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS
5400 South

R38	205	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0
R37	206	1	0.0	59.2	66	59.2	10	----	59.2	0.0	8	-8.0
R34	207	1	0.0	60.4	66	60.4	10	----	60.4	0.0	8	-8.0
R35	208	1	0.0	59.5	66	59.5	10	----	59.5	0.0	8	-8.0
R36	209	1	0.0	58.9	66	58.9	10	----	58.9	0.0	8	-8.0
R41	211	1	0.0	66.4	66	66.4	10	Snd Lvl	66.4	0.0	8	-8.0
R42	213	1	0.0	70.8	66	70.8	10	Snd Lvl	70.8	0.0	8	-8.0
R43	214	1	0.0	70.5	66	70.5	10	Snd Lvl	70.5	0.0	8	-8.0
R44	215	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
R45	216	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
R46	217	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
R47	218	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
R48	219	1	0.0	70.1	66	70.1	10	Snd Lvl	70.1	0.0	8	-8.0
R49	220	1	0.0	70.2	66	70.2	10	Snd Lvl	70.2	0.0	8	-8.0
R50	221	1	0.0	70.2	66	70.2	10	Snd Lvl	70.2	0.0	8	-8.0
R51	222	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
R52	223	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
R53	224	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
R54	225	1	0.0	70.3	66	70.3	10	Snd Lvl	70.3	0.0	8	-8.0
R55	226	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
R56	227	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
R57	228	1	0.0	70.7	66	70.7	10	Snd Lvl	70.7	0.0	8	-8.0
R58	231	1	0.0	62.6	66	62.6	10	----	62.6	0.0	8	-8.0
R59	232	1	0.0	61.3	66	61.3	10	----	61.3	0.0	8	-8.0
R60	233	1	0.0	60.7	66	60.7	10	----	60.7	0.0	8	-8.0
R61	234	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0
R62	235	1	0.0	60.7	66	60.7	10	----	60.7	0.0	8	-8.0
R63	236	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0
R64	237	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0
R65	238	1	0.0	60.4	66	60.4	10	----	60.4	0.0	8	-8.0
R66	240	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0
R67	241	1	0.0	60.6	66	60.6	10	----	60.6	0.0	8	-8.0
R68	242	1	0.0	60.5	66	60.5	10	----	60.5	0.0	8	-8.0
R69	243	1	0.0	60.5	66	60.5	10	----	60.5	0.0	8	-8.0
R70	245	1	0.0	60.7	66	60.7	10	----	60.7	0.0	8	-8.0
R71	246	1	0.0	60.9	66	60.9	10	----	60.9	0.0	8	-8.0
R72	247	1	0.0	61.1	66	61.1	10	----	61.1	0.0	8	-8.0
R73	248	1	0.0	62.5	66	62.5	10	----	62.5	0.0	8	-8.0
R89	267	1	0.0	63.8	66	63.8	10	----	63.8	0.0	8	-8.0
R90	268	1	0.0	64.0	66	64.0	10	----	64.0	0.0	8	-8.0
R91	269	1	0.0	64.2	66	64.2	10	----	64.2	0.0	8	-8.0

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5400 South

R92	270	1	0.0	63.7	66	63.7	10	----	63.7	0.0	8	-8.0
R93	271	1	0.0	63.4	66	63.4	10	----	63.4	0.0	8	-8.0
R94	272	1	0.0	63.5	66	63.5	10	----	63.5	0.0	8	-8.0
R95	273	1	0.0	63.3	66	63.3	10	----	63.3	0.0	8	-8.0
R96	274	1	0.0	64.6	66	64.6	10	----	64.6	0.0	8	-8.0
R97	275	1	0.0	63.4	66	63.4	10	----	63.4	0.0	8	-8.0
R98	276	1	0.0	64.1	66	64.1	10	----	64.1	0.0	8	-8.0
R99	277	1	0.0	63.7	66	63.7	10	----	63.7	0.0	8	-8.0
R100	278	1	0.0	63.8	66	63.8	10	----	63.8	0.0	8	-8.0
R101	279	1	0.0	63.4	66	63.4	10	----	63.4	0.0	8	-8.0
R102	280	1	0.0	64.4	66	64.4	10	----	64.4	0.0	8	-8.0
R103	283	1	0.0	60.9	66	60.9	10	----	60.9	0.0	8	-8.0
R104	286	1	0.0	60.9	66	60.9	10	----	60.9	0.0	8	-8.0
R105	304	1	0.0	70.7	66	70.7	10	Snd Lvl	70.7	0.0	8	-8.0
R106	305	1	0.0	69.9	66	69.9	10	Snd Lvl	69.9	0.0	8	-8.0
R107	306	1	0.0	69.8	66	69.8	10	Snd Lvl	69.8	0.0	8	-8.0
R108	307	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0
R109	308	1	0.0	63.3	66	63.3	10	----	63.3	0.0	8	-8.0
R110	309	1	0.0	61.7	66	61.7	10	----	61.7	0.0	8	-8.0
R111	310	1	0.0	62.7	66	62.7	10	----	62.7	0.0	8	-8.0
R120	333	1	0.0	64.5	66	64.5	10	----	64.5	0.0	8	-8.0
R121	334	1	0.0	64.0	66	64.0	10	----	64.0	0.0	8	-8.0
R122	335	1	0.0	63.4	66	63.4	10	----	63.4	0.0	8	-8.0
R123	336	1	0.0	63.8	66	63.8	10	----	63.8	0.0	8	-8.0
R124	337	1	0.0	64.2	66	64.2	10	----	64.2	0.0	8	-8.0
R125	338	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0
R126	339	1	0.0	63.9	66	63.9	10	----	63.9	0.0	8	-8.0
R127	340	1	0.0	64.6	66	64.6	10	----	64.6	0.0	8	-8.0
R128	341	1	0.0	67.6	66	67.6	10	Snd Lvl	67.6	0.0	8	-8.0
R129	351	1	0.0	69.7	66	69.7	10	Snd Lvl	69.7	0.0	8	-8.0
R130	352	1	0.0	69.5	66	69.5	10	Snd Lvl	69.5	0.0	8	-8.0
R135	357	1	0.0	67.0	66	67.0	10	Snd Lvl	67.0	0.0	8	-8.0
R137	358	1	0.0	63.7	66	63.7	10	----	63.7	0.0	8	-8.0
R136	361	1	0.0	68.0	66	68.0	10	Snd Lvl	68.0	0.0	8	-8.0
R138	362	1	0.0	64.8	66	64.8	10	----	64.8	0.0	8	-8.0
R139	364	1	0.0	62.0	66	62.0	10	----	62.0	0.0	8	-8.0
R140	366	1	0.0	70.4	66	70.4	10	Snd Lvl	70.4	0.0	8	-8.0
R74	368	1	0.0	69.1	66	69.1	10	Snd Lvl	69.1	0.0	8	-8.0
R141	370	1	0.0	67.5	66	67.5	10	Snd Lvl	67.5	0.0	8	-8.0
R146	371	1	0.0	64.0	66	64.0	10	----	64.0	0.0	8	-8.0
R142	372	1	0.0	67.9	66	67.9	10	Snd Lvl	67.9	0.0	8	-8.0

RESULTS: SOUND LEVELS
5400 South

R147	373	1	0.0	62.5	66	62.5	10	----	62.5	0.0	8	-8.0
R143	374	1	0.0	67.5	66	67.5	10	Snd Lvl	67.5	0.0	8	-8.0
R148	375	1	0.0	62.7	66	62.7	10	----	62.7	0.0	8	-8.0
R144	376	1	0.0	67.2	66	67.2	10	Snd Lvl	67.2	0.0	8	-8.0
R149	377	1	0.0	63.6	66	63.6	10	----	63.6	0.0	8	-8.0
R145	378	1	0.0	66.9	66	66.9	10	Snd Lvl	66.9	0.0	8	-8.0
R150	379	1	0.0	68.9	66	68.9	10	Snd Lvl	68.9	0.0	8	-8.0
R151	380	1	0.0	67.6	66	67.6	10	Snd Lvl	67.6	0.0	8	-8.0
R152	381	1	0.0	53.7	66	53.7	10	----	53.7	0.0	8	-8.0
R153	382	1	0.0	54.4	66	54.4	10	----	54.4	0.0	8	-8.0
R156	386	1	0.0	56.0	66	56.0	10	----	56.0	0.0	8	-8.0
R155	387	1	0.0	56.4	66	56.4	10	----	56.4	0.0	8	-8.0
R154	388	1	0.0	56.9	66	56.9	10	----	56.9	0.0	8	-8.0
R157	391	1	0.0	54.6	66	54.6	10	----	54.6	0.0	8	-8.0
R158	392	1	0.0	54.3	66	54.3	10	----	54.3	0.0	8	-8.0
R159	393	1	0.0	54.0	66	54.0	10	----	54.0	0.0	8	-8.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		122	0.0	0.0	0.0							
All Impacted		46	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS
5400 South

Jacobs													
SWA													
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:													
RUN:													
BARRIER DESIGN:													
ATMOSPHERICS:													
Receiver													
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
R1	170	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R2	171	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R3	172	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R4	173	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R5	174	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R6	175	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R7	176	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R8	177	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R9	178	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R10	179	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R11	180	1	0.0	66.1	66	66.1	10	Snd Lvl	65.7	0.4	8	-7.6	
R12	181	1	0.0	67.8	66	67.8	10	Snd Lvl	67.3	0.5	8	-7.5	
R13	182	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R25	194	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R26	195	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R27	196	1	0.0	64.2	66	64.2	10	----	60.9	3.3	8	-4.7	
R28	197	1	0.0	64.7	66	64.7	10	----	60.6	4.1	8	-3.9	
R29	198	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R30	199	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R31	200	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R32	201	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R33	202	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R34	203	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R35	204	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	

RESULTS: SOUND LEVELS
5400 South

R36	205	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R37	206	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R38	207	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R39	208	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R40	209	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R41	211	1	0.0	65.7	66	65.7	10	----	63.1	2.6	8	-5.4
R42	213	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R43	214	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R44	215	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R45	216	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R46	217	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R47	218	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R48	219	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R49	220	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R50	221	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R51	222	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R52	223	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R53	224	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R54	225	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R55	226	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R56	227	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R57	228	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R58	231	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R59	232	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R60	233	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R61	234	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R62	235	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R63	236	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R64	237	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R65	238	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R66	240	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R67	241	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R68	242	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R69	243	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R70	245	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R71	246	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R72	247	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R73	248	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R89	267	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R90	268	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R91	269	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0

RESULTS: SOUND LEVELS
5400 South

R92	270	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R93	271	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R94	272	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R95	273	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R96	274	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R97	275	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R98	276	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R99	277	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R100	278	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R101	279	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R102	280	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R103	282	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R104	283	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R105	286	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R122	304	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R123	305	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R124	306	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R125	307	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R126	308	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R127	309	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R128	310	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R148	333	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R149	334	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R150	335	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R151	336	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R152	337	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R153	338	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R154	339	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R155	340	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R156	341	1	0.0	67.5	66	67.5	10	Snd Lvl	64.6	2.9	8	-5.1
R157	342	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R158	343	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R159	344	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R160	345	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R161	346	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R162	347	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R163	348	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R164	349	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R165	351	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R166	352	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R171	357	1	0.0	67.0	66	67.0	10	Snd Lvl	63.8	3.2	5	-1.8

RESULTS: SOUND LEVELS
5400 South

R172	358	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R175	361	1	0.0	68.0	66	68.0	10	Snd Lvl	66.3	1.7	5	-3.3
R176	362	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R178	364	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R179	366	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R74	368	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		112	0.0	0.2	4.1							
All Impacted		5	0.4	1.7	3.2							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS								5400 South				
Jacobs												
DR												
RESULTS: SOUND LEVELS												
PROJECT/CONTRACT:		5400 South										
RUN:		Build										
BARRIER DESIGN:		INPUT HEIGHTS						Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH										
Receiver												
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over Calculated	existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal dB
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	
R1	170	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R2	171	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R3	172	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R4	173	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R5	174	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R6	175	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R7	176	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R8	177	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R9	178	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R10	179	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R11	180	1	0.0	65.8	66	65.8	10	----	65.4	0.4	8	-7.6
R12	181	1	0.0	67.5	66	67.5	10	Snd Lvl	67.0	0.5	8	-7.5
R13	182	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R25	194	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R26	195	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R27	196	1	0.0	64.1	66	64.1	10	----	59.5	4.6	8	-3.4
R28	197	1	0.0	64.8	66	64.8	10	----	58.9	5.9	8	-2.1
R29	198	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R30	199	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R31	200	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R32	201	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R40	202	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R39	203	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R33	204	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0

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RESULTS: SOUND LEVELS
5400 South

R38	205	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R37	206	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R34	207	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R35	208	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R36	209	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R41	211	1	0.0	65.9	66	65.9	10	----	61.2	4.7	5	-0.3
R42	213	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R43	214	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R44	215	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R45	216	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R46	217	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R47	218	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R48	219	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R49	220	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R50	221	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R51	222	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R52	223	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R53	224	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R54	225	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R55	226	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R56	227	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R57	228	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R58	231	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R59	232	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R60	233	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R61	234	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R62	235	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R63	236	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R64	237	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R65	238	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R66	240	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R67	241	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R68	242	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R69	243	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R70	245	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R71	246	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R72	247	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R73	248	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R89	267	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R90	268	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R91	269	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0

RESULTS: SOUND LEVELS
5400 South

R92	270	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R93	271	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R94	272	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R95	273	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R96	274	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R97	275	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R98	276	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R99	277	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R100	278	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R101	279	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R102	280	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R103	282	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R104	283	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R105	286	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R106	304	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R107	305	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R108	306	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R109	307	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R110	308	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R111	309	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R112	310	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R122	333	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R123	334	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R124	335	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R125	336	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R126	337	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R127	338	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R128	339	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R129	340	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R130	341	1	0.0	67.7	66	67.7	10	Snd Lvl	65.5	2.2	5	-2.8
R131	351	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R132	352	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R137	357	1	0.0	67.2	66	67.2	10	Snd Lvl	62.8	4.4	5	-0.6
R138	358	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	5	0.0
R140	361	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R141	362	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R142	364	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R143	366	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R74	368	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R144	370	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R149	371	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0

RESULTS: SOUND LEVELS
5400 South

R145	372	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R150	373	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R146	374	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R151	375	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R147	376	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R152	377	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R148	378	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R153	379	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R154	380	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R155	381	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R156	382	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		117	0.0	0.2	5.9							
All Impacted		3	0.5	2.4	4.4							
All that meet NR Goal		0	0.0	0.0	0.0							

RESULTS: SOUND LEVELS								5400 South					
Jacobs								12 April 2011					
DR								TNM 2.5					
								Calculated with TNM 2.5					
RESULTS: SOUND LEVELS													
PROJECT/CONTRACT:		5400 South											
RUN:		Build											
BARRIER DESIGN:		INPUT HEIGHTS							Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.				
ATMOSPHERICS:		68 deg F, 50% RH											
Receiver													
Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal dB	
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB	
R1	170	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R2	171	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R3	172	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R4	173	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R5	174	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R6	175	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R7	176	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R8	177	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R9	178	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R10	179	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R11	180	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R12	181	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R13	182	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R25	194	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R26	195	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R27	196	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R28	197	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R29	198	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R30	199	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R31	200	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R32	201	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R40	202	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R39	203	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	
R33	204	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0	

RESULTS: SOUND LEVELS
5400 South

R38	205	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R37	206	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R34	207	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R35	208	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R36	209	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R41	211	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R42	213	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R43	214	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R44	215	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R45	216	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R46	217	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R47	218	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R48	219	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R49	220	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R50	221	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R51	222	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R52	223	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R53	224	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R54	225	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R55	226	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R56	227	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R57	228	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R58	231	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R59	232	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R60	233	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R61	234	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R62	235	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R63	236	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R64	237	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R65	238	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R66	240	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R67	241	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R68	242	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R69	243	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R70	245	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R71	246	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R72	247	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R73	248	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R89	267	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R90	268	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R91	269	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0

RESULTS: SOUND LEVELS
5400 South

R92	270	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R93	271	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R94	272	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R95	273	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R96	274	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R97	275	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R98	276	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R99	277	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R100	278	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R101	279	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R102	280	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R103	283	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R104	286	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R105	304	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R106	305	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R107	306	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R108	307	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R109	308	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R110	309	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R111	310	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R120	333	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R121	334	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R122	335	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R123	336	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R124	337	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R125	338	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R126	339	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R127	340	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R128	341	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R129	351	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R130	352	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R135	357	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R137	358	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R136	361	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R138	362	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R139	364	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R140	366	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R74	368	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R141	370	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R146	371	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R142	372	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0

RESULTS: SOUND LEVELS
5400 South

R147	373	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R143	374	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R148	375	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R144	376	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R149	377	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R145	378	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R150	379	1	0.0	66.8	66	66.8	10	Snd Lvl	65.6	1.2	8	-6.8
R151	380	1	0.0	64.8	66	64.8	10	----	59.1	5.7	8	-2.3
R152	381	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R153	382	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R156	386	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R155	387	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R154	388	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R157	391	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R158	392	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
R159	393	1	0.0	0.0	66	0.0	10	inactive	0.0	0.0	8	0.0
Dwelling Units		# DUs	Noise Reduction									
			Min	Avg	Max							
			dB	dB	dB							
All Selected		122	0.0	0.1	5.7							
All Impacted		1	1.2	1.2	1.2							
All that meet NR Goal		0	0.0	0.0	0.0							

APPENDIX C

PUBLIC SCOPING COMMENTS



	Comments: What most interested you in coming to this meeting?	Comments: Roadway -What should UDOT consider?	Comments: Community Impacts -What should UDOT consider?	Comments: Improvement Considerations	Comments: Rank the following in order of importance: widening, intersection capacity, shoulders and sidewalks.	Comments: Are there other improvement options UDOT should consider?	Comments: Other concerns UDOT should consider in the study process.
S011	Direct impact on our business as property owners. Precision Tune Auto Care. 5400 S/4220 W on the NE corner intersection			Concerned about loss of cars coming to business during construction period and loss of business	1) Widening 2) Adding intersection capacity 3) Improving shoulders and sidewalks		If UDOT takes part of property how will it directly affect parking, setback requirements of the building, minimum parking requirements, removal of pole sign & LED. If property will be usable once completed. Also, compensation for revenues lost during construction phase and/or compensation for relocation of business and fair appraisal value and sale of business.
S022	Saving my business. I don't want to look for a new job in this economy. Moving our location would destroy our business.	How would they like to be looking for a job right now.	Many people fought hard to keep the Kearns township. Moving all businesses out of Kearns will make that effort pointless. A township cannot survive without businesses.	They are destroying the business my grandfather started fifty years ago. Three generations have put a lot of sweat into building that business. Just moving a business doesn't keep it the same.	Keeping the business district in Kearns alive.	Build a double decker road so the top can be an east-west highway and all the businesses and homes can stay.	Destroying peoples lives they have built. If you take out any businesses in this economy everyone will have to start new and the chances of them surviving after the move.
S035	Investigation tour			Too close to businesses on the south			
S061							My business is one of the oldest businesses in Kearns, we have been in business for 50 years and entering the 3rd generation of Gines', I know that change sometimes is great but Kearns is a unique town of its own, we need to do everything we can to keep the Kearns township and existing businesses in place.
S098	Where is the road going???	The township of Kearns. Kearns is gone with this improvement.	The memorial can be MOVED!!!	You're taking too long	None of the above	Power lines & telephone lines are on the north side of the street - expensive	What ever you're going to do, DO IT - let's get going! Let us know so we can plan our lives.
S106	I wanted to hear about the proposed plans. Now I get to wait, again, and worry about being put out of business. Rather annoyed at this point!	Six months (or maybe even less) with no business success or sales will put almost anyone out of business. At this point I would almost rather move.	Heavy dust, mud, gravel, potholes, mass confusion of motorists in the area	Heavy loss of business during and after construction		Don't bother with bike lanes. The residents and business owners don't benefit from the wasted space for bicycles.	Find a way to minimize (contain) construction zones to reduce impact on businesses. Do widening in smaller sections rather than tearing the whole street up.
S122							Qwest has both fiber and copper facilities along both sides of 5400 South. This project will definitely impact these facilities. A Qwest project is being considered adding capacity along this route. We will need to know the scope of the projected additions and/or changes planned and the time frame involved. Any specific plans or projections you can furnish at this time will be appreciated.
S102							The city of Taylorsville wants to make sure the 5400 South construction/road project does not inhibit or decrease access from 5400 South to the shopping and dining businesses around the Kmart property. With the loss of Bangerter Highway access, a controlled access from 5400 South is needed to maintain a viable commercial center. Limited or no access would substantially decrease needed tax revenue and negatively affect the entire city of Taylorsville.
S001	How are you going under the railroad tunnel?	If the road is widened under railroad tunnel where are the sidewalks going to be for the high school?	How are the high school kids going to get across the tracks to the north and east?	School kids at the high school and safe passage	Intersection capacity, improving shoulders and sidewalks		Homes Businesses
S002	My interest in having a bike lane	Bike lane. We were riding bikes up to rec center on a garbage day - the road unsafe to ride on and the sidewalk was filled with garbage cans - - it was very unsafe ride!		Alleviates congestion & traffic	Improving shoulders (bike lane?), widening, capacity, sidewalks	Bike lane, esp up to the high school and rec center so that youth and adults can bike safely to those locations	We are annoyed at the Flex Lanes further east on 5400 South -- don't start something and re-do all the progress so that nothing is complete. Place signs letting us know progress and why sudden changes.

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S003	Not able to come - sent representative to find out particulars about property acquisition - (on south side of street) - Don't want part of property - front yard chopped off & left very little opportunity to sell property after that. Older couple. Where would we go?		Access to library and junior high students crossing 54th				
S004	Because I sit in east/west traffic going to and coming home every day.	The intersections and timing of the lights. Traffic is backed up often due to traffic not getting through the lights at Bangerter. Green lights east and west should be given the same importance and north/south.	Please address the memorial - that it is appropriately moved and given the care it deserves.	I like the widening of 54th, the current 2 lanes into 3 at Bangerter creates a back up.	1) Widening 2) Adding intersection capacity 3) Improving shoulders and sidewalks	Timing the lights better and coordinating Bangerter lights and lights at 4000 West	See picture attached. The "new" left turn barrier at 54th and Bangerter (going east, turning north) has created a HUGE back up. It defeats the purpose of the work done at the intersection. An accident about 4-5 years ago when a trooper hit a car turning into a driveway on the south of 5400. The driveways are hills. There is no shoulder, the sidewalks are narrow. 5400 needs to be safer to drive on!
S005	My mother losing her house and where to put (?) later.	Just add left turn lights at 4800 West and road to high school.	Railroad underpass	Widening. It's been widened enough.		Close road to high school. Divert it to 5600 S. instead.	Widen other roads to take up excess traffic.
S006	Seeing the options/having a voice	Bike trails	Railroad bridge	I would love to see east/west travel much less congested.	Widening Safety Intersection	Flex Lanes Railroad TRAX/Bus service	Widen 6200 So. 6200 S/Bangerter lights Bike lanes
S007	It directly affects me. I live on 5400 S.	Safety concerns, working fairly with those who lose their homes.	Helping those people who may not qualify for a new mortgage because of unemployment issues.	Not a good time for us. My husband lost his job yesterday. I'm scared.	Safety. If you take part of my property, that puts the traffic closer to my home. Take all my property in that case.	Traffic accidents - need better police monitoring for speeding. The cars end up on our property in accidents.	Please give us plenty of time to be out of our home if you're going to purchase it.
S008	Not convinced 54th So is the best connection to corridor project; however, would certainly like to see some improvement sidewalk etc.	All of the above [lighting, narrow shoulders and sidewalks] is fine	Access to library and jr high Students crossing 54th	Concerned about neighbors homes getting a fair acquisition price and help in relocating	Improving shoulders and sidewalks (#1); don't care about the other [intersection capacity, widening]		
S009	Property impact and values	Definitely sidewalks and curb safety	My house is already close to the roaring cars	Better walks and curbs	Please do not take my yard and house and give me nothing	My property value	My hope my dreams gone
S010	How your project will impact our community, neighbors and friends, also students	The safety of students who cross the streets. Widening the road creates wider distances to cross. Jr. high.	The senior citizens - the young who cross the roads to libraries, schools etc.	That long time citizen will be moved and property will be taken for businesses to later be able to build. A loss of our community!	Improving shoulders and sidewalks - Safety	We have none you will do what you want! Too bad to us in Kearns.	My concerns are the safety of the jr. high students, high school and people going to the library.
S012	Learning about the project on 5400 S	If you are going to widen 5400 S. then bike lanes on the shoulders should be considered as part of the project	Keeping as much as you can the businesses in Kearns			Bike lanes	
S013		Improved facilities for bicyclists. This is a priority bike route that connects with public transit at TRAX station.	Impact on splitting community and neighborhoods. Design street improvements for people - pedestrians and bicyclists.				

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S014	Width of road after construction will it be wider on both sides of 5400 S						
S015	Learning what and why. All information on the displays should have been available on the website before the meeting.	Imrpove light timing to reduce stop and go traffic. Modify left turn on 4800 S to H.S. Eliminate eastbound left turn to NW Ave and extend left turn lane thru light.	Loss of historical district of Kearns	Loss of historic [?] of Kearns and individuals losing homes for increased traffic.	Intersection capacity Sidewalks	Light timing, from Bangarter to 4800 W & east to 2700 S.	Can the traffic be diverted to 4700 S from 40th to the corridor at less cost and disruption to community. Why not extend MVC to 4700 S and build new road 7 lanes to Bange. This uses property that is sparsely populated.
S016	It is in the area where I work. Wanted to know impact.			I like it - too much congestion - concerend for residents living on 5400 that may be displaced.	All of the above (widening, adding intersection capacity, improving shoulders and sidewalks)		Keep fire station within area being re-constructed
S017	What happens to my house? We have lived there 20 yrs. I don't want to open my front door & step into a freeway.			What happens to my house?			
S018				Library on north side of 5400 - students crossing? Jr High students crossing to north ?? SAFETY ??	*Sidewalks*		Student/resident to and from library & schools
S019	To see the proposal			I like the sidewalks meeting code and the intersections being less congested.	Sidewalks but if you put in shoulders they become parking lots for all the home owners, and more dangerous, adding intersection capacity, very needed, especially on Cougar Lane.	Widening 4700 would not impact homes or businesses because the N side is parking strip and fields.	How neighborhoods will be impacted when trying to access 5400 So.
S020	How it affects me, my home & traffic	Causes of increased traffic, impact on pedestrians (high school), impact on homes, future "improvements"	Fire station - rush hour gets blocked sometimes- flashing light to stop? Sidewalks don't get shoveled (elderly)	I don't like the plans for no light/signal improvements at 5400 & Cougar, no concern for high school walkers across 5400 S, and no concern for how we're supposed to get in and out of our subdivisions.	Sidewalks, intersection, shoulders, widening	Flashing light for fire station, signal light (turning on to 5400) at 5400 & Cougar, traffic jam westbound off 5400 onto Cougar	Concert (USANA) traffic, pedestrians, in/out of neighborhoods
S021	To see if your minds are made up and I see they are	Make 54 & 47 one-way streets	Leaving things alone	You guys do whatever you want; this is what I dislike			
S023	The plans for widening 5400 So.	Getting in and out of neighborhoods to go on and off 5400.		Everytime you widen 5400 South or do improvement for increase in traffic it makes it worse. All it does is get more people to use it instead of the other roads that head west.	1) Shoulder and sidewalks 2) Adding intersection capacity 3) Widening		

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S024	I wanted to know details - which side the property would be acquired from (north or south)? How deep into the neighborhood would the acquisitions go?	Bus lanes Pedestrian crossings	We have many older citizens and others on the south side of 5400 that would find it most difficult to leave a fairly inexpensive mortgage or no mortgage at all and try to find a comparable home in this valley.			Is there an alternative route to direct traffic to. This section of 5400 is highly used by jr. high and high school students and students accessing the library.	What exactly is the traffic problem? Which area is contributing most to the traffic problem? Far out west?
S025	Objetivo de este reunione ayudar al futuro de la comunidad facilitando y permitiendo la seguridad y evitando accidentes. TRANSLATIO (VERIFIED BY PHONE CALL)N: Objective of this meeting is to help the future of the community facilitating and allowing the security and avoiding accidents.	Todo lo que sea bueno y permita una proyeccion. Mejor para resolverla seguridad del individuo es importante. TRANSLATION: Everything that is good and allows a better projection to resolve the security of the individual is important.	Ayudaria a toda estos esta mentos publicos y a los (?) despues pue dan rehubicao todos estos. TRANSLATION (CLARIFIED & ADDED TO BY PHONE): The residents will definitely be impacted. There are many people that have lived in this area for so many years and they fear change. We are used to going to the closest market, grocery store, etc. and we will have to get used to traveling farther meanwhile changes are taking place. The older people fear change more than the younger ones. We just need to understand that it's all for our benefit.	El proyecto es excelente. Cavfaria on gran impacto y permitiri mniimzos los accidentes. TRANSLATION: The project is excellent. It would cause a great impact and it would allow the accidents to minimize.	Es mejor hacerlo todo como lo han projectado esperamos, sece lo mesori. TRANSLATION: It's better to do it all like it has been projected; we hope it's all for the best.	Para ser seguro el proyecto. TRANSLATION: The project seems to be secure. (ADDED BY PHONE): Everything I saw on the video looks great, I hope the ending result is as nice as what they showed us. My major concern is the pedestrian crossings. Some streets in our area are too busy to have houses in front of them. It just shouldn't be a residential area. I'm afraid to let my children out because our street is too busy. I hope they keep that in mind when they are making changes by creating more pedestrian crossings. Another improvement UDOT should consider is the bus service. It is currently a bit slow.	Seguridad, via jeatonal, menos accidentes, e iluminacion adecvado, disminveion del flujo vehicular etc. TRANSLATION (ADDED TO BY PHONE): Security, via pedestrians. Less accidents and adequate lighting, reduction of vehicular flow, etc. Thank you for taking my comments in consideration.
S026	To improve flow on 5400 S.	I see a fair amount of cyclists on 5400 S. An accompanying trail system would benefit our community.	Safety to school children and pedestrians.				
S027	Air pollution from cars- smog, remember it from the whole month of January?		Put twice as many cars in this valley and people will start dying from the pollution. Enough with the roads- start supporting bikes, buses, and trains!			Bike lanes. Bus stops that are safe and don't obstruct a whole lane.	Air quality
S028	Enlarging road/ how flex lanes will work			Improvements/ more lanes/ curb and gutters	Widening Sidewalks		

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S029	I live at 4279 W. 5415 S. I've spent a lot in remodeling the property. Purchased my home when market was at highest in 2007. Market values are down. Been finishing basement not done yet and confused why to do since not sure if losing my home.	Loss of property tax and businesses negatively impacted (26 + homes gone)	Pedestrians get almost ran over every day right out front of my door when trying to cross the road to get to the library. Scary to see no crosswalk but people cross anyway.	Probably going to be my home? And if not lose value with busy road at my front door.	Safety of pedestrians is paramount Having a shoulder for bikes too now important Snow plows pile an icy berm on my sidewalk. Dangerous to clear snow in busy traffic and no shoulder.		
S030	To support the future... not drag on with the past and antiquated thinking. UDOT has ignored this corridor too long. Make an investment to sustatin the future.	Look at relocating railroad away so we can get rid of bridge and grade. Find out how much local service is still needed to the warehouses in area. Most no longer need rail access.	The memorials are not placed where anyone cares. There is no community center and Kearns needs to be annexed into West Valley City. I don't have, nor care about the history of an old army camp.	Get the widening done sooner rather than later	Widening Sidewalks Intersection capacity Shoulders	Concrete, not asphalt (if 7 lanes) re-locate rail line. Buy additional blighted areas with county RDA effort to provide new commercial development areas	USANA Ampitheatre event traffic. There also lacks any good minor arterial connectivity between 5600 W & 4800 W. i.e. 4800 is not continuous to the north to 4700 South- this causes overload between 4000 W & 4800 W.
S031	Design plans Impact on community		Keeping the speed limit reasonable- 45? Providing safe and convenient pedestrian and vehicular crossings of 5415.		Shoulders-Sidewalks Widening Intersections	Safe crosswalks	When 5400 is busier how do we cross 5400 or turn left onto it from other n-s flowing streets, i.e. 4420 W?
S032							Take north side
S033	Find out what doing	People's needs					North side is more rundown. Take out north side.
S034	To learn exactly what UDOT is going to do				Widening Intersection Capcity Shoulders and Sidewalks They're all improtant		
S036	Widening 4700 S. instead of 5600 and creating on/off ramps @ 4700 S.	What resident and businesses think	Other more important issues	Like double left turns at 5600 W. and at H.S. Don't like impact on homes/ businesses	Sidewalks	Street lights	Overall cost to taxpayers
S037		Make 5400 one way east and 4700 one way west					
S038	My mother lives on 5415 S. I need to know if there has been a decision on how this is going to work.	Safety for residents and resale value of their homes	For the elderly I think a reasale value is important so we can re locate her.	Nothing	Shoulders and Sidewalks Widening Intersections	Lighting	
S039	Just to find out what's best for all involved	Sound walls	Making it safer	The if's of losing the property	Needs to be safer		
S040	Fear for the safety of the Kearns Jr. High Kids crossing 5400 S.	We lived there! Speeds have always been to excessive. Slow down a little and enjoy life.	A good percentage of elderly people. Access to neighborhoods during peak traffic times.	We appreciate you trying to make sure feel we are still in a free country, when we know you've already decided.	Safety! Safety! Safety!	Enforcing speed limits <u>Strictly</u>	Limiting speeds
S041	To see what was going on					I think tracks should be put out here to help the congestion	

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S043	The widening of 5400 could end the business and have been at for over 30 years- it would cause relocation out of Kearns	Go to 4700 So.		It would take out all business in Kearns			
S044	I wanted to know if I should start looking into moving	Lite Rail, reduce # of cars on the road		If widening, it looks like the north side would have less direct impact on residents	Widening the road if TRAX isn't available	If the fire staion remains after work is done, they should have a stop light/ no blocking sign	# of houses taken from owners
S045	I like the flex lanes. We lived in Seattle and used them. They work good if people pay attention to the arrows	Straightening 5400 into a straight road		It will have sidewalk and curb and gutter.			
S046	Traffic is heavy lots of accidents. Would like you to send informaotn as soon as it comes available	Driveway is on a slope. If any property is removed, it will make it difficult to get up my driveway.					
S047							We need Main St. not a highway
S048		Help you	Bulldoze 6200 South to 6 lanes and use 215 for west bound traffic!!! Exits are in place	Mountain Corridor another Bangerter in the making- lets do better!!	Liveable community Build it and they will come! The people on 13th east had the right vision		Put trucks on Legacy- no next to passenger cars on I-15 where children are going and coming from their homes.
S049						Road better at 4500 S. then at 5980 W diagonal to 6000 W and 5400 S. no business would be touched	if we are to lose our business we need as much time as you do in study and relocations- 1-1 11/2 years.
S050			It's a done deal- let's get the road fixed and widened and move on into the future				
S051	Buying property on 5400 S.	Medium strips between road and sidewalk	Will you force the selling of residential property?	On the coast, force of the sale of private property can only happen in time of war! What makes Utah different than Virginia!			
S052	Was the decision to widen 5400 S. to 7 lanes already decided- yes	Please do not kill off all of Kearns business on the main drag (5400 S.)	Drainage problem at 4220 S. to 4000 W. on south side of road, fire station, war memorial at 5400 S. 4000 W., pedestrians (esp. school children), bus stops, left turn light at 4800W. Entire light at 4800 W. Access to Kearns library, access from side streets to getting on 5400 S. buisness access, etc.	Do not widen 5400 S. do not raise the speed limit on 5400 S. (the 40 mph limit is ok, people and car go 45- 50 mph anyway.)	None, leave it alone	Do Mountain View Corridor	Please consider the people of Kearns not the cars passing through at a fast, quick rate of Speed. We are a community not a highway!
S053	To find more information as to what is being proposed	The biggest concern is the intersection of 4015 W.- needs to be less of an angle (see enclosed mapquest map)		Dislike the idea of the extreme width of the 7 lane highway option- more than double of the existing highway	Adding intersection capacity widening improving shoulders and sidewalks	Widening minus the shoulders (like is already in place on the remainder of 5400 S. to Redwood Road	Getting the best project for the buck

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S092	What the plans are for 5400 So.	Potholes!! Intersection at Cougar Lane for traffic lights. That needs to be fixed ASAP.	Actually care about what the residents have to say	That they are not considering what the residents have to say	Traffic lights need to coincide, improving shoulders and sidewalks. I am not sure how UDOT can widen.	How much the residents of Kearns will have to pay towards this. Lighting on the streets.	Cost to residents, crosswalks for schools
S093		Leave it alone and put money back in the school					
S094	Concerns of the community	Snow removal on sidewalks. Potholes. Road general maintenance.	Moving project to 4700 S. Putting Mt. V Corridor interchange on 4700 S. & not 5400.	Don't like to lose so many homes & fire station, businesses.	Improving shoulders and sidewalks		
S095	If our house needs to be torn down will I receive an <u>honest</u> price for it						
S096	My own residential needs	It is a known fact that residential expansion is going west, so in order to move traffic safely widening is a must.	The fact that backing in and out of driveways onto 5400 So is taking your life in your own hands	I like the improvement because living on 5400 or walking is very dangerous because no one obeys posted speeds			UDOT should in the event of home demolition should consider paying an equitable price according to other prices in the area
S097	I don't want our house removed; instead widen both sides of 5400	It needs to be wider	If our house is removed we need the price of homes around the area, not just on 5400	Lower the speed limit. Everybody goes 50 miles/hr.	All needs to be done. We need to know so we can make our plans.		
S099	Removing houses	More money for those who must relocate					
S100	I live on 5400 S so it will affect me		I live directly across from the fire station on 5400 S. I would like to get off of the busy street. If they shorten my driveway it will be very dangerous & I'll have no room to park. I would like my house purchased if I can get into a new home & fair appraisal.				
S101	I want to stop the destruction of our community	Do not widen our street. Do not destroy our businesses & homes.	These are very important to us. You will divide our community in half. Say no to widen 5400 So.	You will be destroying our community.	Improve shoulders & sidewalks Leave the street alone	If you want to widen something widen 4700 So.	You will put people out of business & out of their homes.
S103		How about bike lanes?	The intersection at 5400 South and 4800 West needs improvements. The left turn (heading west) is sometimes backed up way to far!	Making the road wider is fine but what about the homes along the way?	Intersection capacity Sidewalks Snow removal from the sidewalks should be addressed. The snowplows bury the sidewalks and no one cleans them.	Absolutely no reversable lanes. They are very dangerous.	The road under the railroad bridge is too narrow. If the road is made three lanes each way, what happens at 4800 West when it goes back to two lanes each way? Big traffic jam?

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S105	Other options besides 5400 South	Drainage	If 5400 South, where are the affected businesses to go? 4700 South hooks into I-215. 5400 South does not.	Why no mention of phase II and the number of people it will affect? Is it to keep the numbers small (decent)? Divide and conquer.	Improving shoulders and sidewalks and drainage Lighting can be worked with existing power lines.	Improve 4700 South instead.	Why is there nothing about 4700 South. There would be less businesses and homes affected.
S107	To see how the road project will impact my business access and doing business. Concerned about island blocking access from the road. Turning left.	Bus stop locations		I like that UDOT is improving traffic flow and sidewalks.	Widening Sidewalks Intersections		
S108	To submit comments and see exhibits	Storage of snow after plowing, people. People cannot (?) because snow is too deep and solid causing pedestrians to walk in the street. Park strips should be concrete/paved.					
S109	Drawings and maps of possible plans	Whatever is done to the road must include a bike lane. See Redwood Road by Camp Williams for a good example.	Living next to a road seven lanes wide will hurt businesses and destroy property values all around.	Good - Shoulder and sidewalk improvements Bad - Seven lanes. Forget seven. Stay at five. Bad - Bottleneck is only moved to the railroad bridge that is too narrow.	Shoulders Widening Intersection improvements	First widen to five lanes with a shoulder etc. then block some of the residential access that's left. Last, signal the residential access that's left.	Find a different road to make seven lanes with less residential nearby.
S110	The whole Kearns community	Flow of traffic and maintain a great community look	Traffic in and out of the area. Flow of traffic	Like it!	Sidewalks Widening Adding intersection capacity Improving shoulders		
S111	To see how open you are to hear our concerns	A skywalk just east of 4800 West. Both sides are already built up high so it would reduce the need for the big ramps.	Nobody wants this in their yard but we all know it needs to go somewhere.	Don't forget bike lanes.		Allowing the Kearns Community Council to acquire one of the properties with the building still on it so we could turn it into a community center for Kearns	
S112	Traffic and getting in and out of side streets without aid of lights	Pedestrians getting across the wider streets. If you are by the fire station you have to go to 4220 West or other way Northwest Ave to cross safely by lights.	Progress will have to be made, a lot of rentals and older homes, might be best to tear down and widen streets	Better traffic flow	Improving shoulders and sidewalks Widening Adding intersection capacity		Give valid suggestions 1, 2 and 3 and let people vote.
S113	Where and who this will impact for houses and businesses	Improve sidewalks, least impact to people's lives as possible	People's lives, how accidents would impact people's lives and houses if houses stay on 5400 South	Taking property and how it will affect business and access to property during construction	Shoulders and sidewalks Intersection capacity Widening	Widen other streets instead like 4700 South or 6200 South.	
S114	What changes are being considered	How changes will affect residents and businesses?		Widening, better traffic movement	Widening Intersection capacity Shoulders and sidewalks	Leave the road as is but improve the condition of the road.	

	Comments: What most interested you in coming to this meeting?	Comments: Roadway -What should UDOT consider?	Comments: Community Impacts -What should UDOT consider?	Comments: Improvement Considerations	Comments: Rank the following in order of importance: widening, intersection capacity, shoulders and sidewalks.	Comments: Are there other improvement options UDOT should consider?	Comments: Other concerns UDOT should consider in the study process.
S115	Widen the railraod bridge and shorten the curve heading west, too many accidents	Widen the whole street all the way to the mountains and take out the houses on both sides.	What's best for the community		Intersection capacity Shoulders Sidewalks	More police on 5400 to control the speed	
S116					Widening Shoulders and sidewalks		
S117	Honestly? If Al Peterson mentioned 4700 South one more time I was ready to be the voice of reason:)	Consider UDOT doing a great job, understanding what they consider to be their social responsibility, being extremely informative and exhausting all resources to inform the community. Keep up the good work!	Bingo hall. Kidding.	5400 South needs this improvement. With 5400 South eastbound already at 45 and 50 mph in some areas, more lanes are needed to accommodate east-west traffic flow.	Widening Intersection capacity Shoulders and sidewalks	Show potential building structures. Cleaning up the area, improving home values etc.	Check out the demographics of this crowd. Ninety-five percent of the turnout are age 65 or older and maybe recognize there is more importance in simply losing their house. It's a frightening experience for some. Maybe take a more humane approach when reasoning rather than show traffic flow in 30 years. Most of them will no longer be with us and could care less if traffic flow will double in 30 years. I'm sure they want improvement just not at their expense.
S118	Intersection work at 4800 West on north-south and east-west. For safety, lots of accidents. 4000 South intersection has blind spots. Make safer.			Elderly who have been in homes 16-40 years are upside-down because of taking equity out of homes. Appraisals won't include that so what happens to them if homes are (?).	Shoulders and sidewalks Intersection capacity Widening		
S119		Don't worry about 5400 South. Take care of Bangerter. It is crowded. It is backed up clear past 7800 South. Upper 5400 South can take care of itself.	Traffic is on Bangerter going north and south. Fix the light on 5400 South and Bangerter. They are too long.				
S120	Lighting, accessibility for handicapped, crosswalks, property taken, fire station, gutter drains, kids lives crossing 5400 South	Crosswalks, handicap accessibility, bus line, flow for concerts to USANA	The kids that cross 5400 South to go to school, handicapped people, concerts at USANA	I like widening for better traffic flow. I dislike that it won't be safe for students.	Sidewalks Shoulders Intersection capacity Widening	Railroad bridge, beautification around the memorial at 4800 West	Money, money, money, people's property and feelings, the money that has already been put out to take care of our property
S042	Water/ Sewer utility line					No vegetation in the parkstrips leave enough room for snow removal and pedestrian traffic	

Other Comments	
S072	The Methodist Church would like to have a whole new building, but where?
S121	KID manages water and sewer service in the project area. Mike also mentioned that there is a storm water line under the road that goes up to about 4000 West, but nobody knows who owns the line. They are interested in participating in the study and communication throughout the project.
S054	Raise the price of gas, cleaner air, less people on the roads, more income for the government. Keep it that way for awhile. Force people to buy smaller cars, cleaner and more efficient, more money for the car manufactures and hopefully more jobs. It seems harsh and I don't know about you guys but I like a little air with my smog
S055	I have been a resident of Kearns for 30 years and travel 5400 S. every day. I hope your plan does not include condemning homes. Many residents along your project route are elderly and could not start over some place else.
S056	<p>I live just off 5400 S. and 4800 W. on Charlotte Ave. I use 5400 S. constantly, several times a day. The intersection at 5400 So. and Cougar Lane. is extremely dangerous. We have seen many, many accidents there. It's a blind intersection coming from the West. It's on a hill, plus it's super busy. People go to fast both ways and run the red light all the time. There is a lot of foot traffic that goes across 5400 South at the intersection for the high school at 5500 So. as well as for the Oquirrh Hills Fitness Center across the street from the High School.</p> <p>It's extremely hard to get out onto 5400 South from Charlotte Ave. and the wait to get through the light from the North or South is inordinately long. The intersection is a mess when the roads are slick, because at the stoplight the traffic is on an inclined street, so when vehicles stop, they can't get going uphill when the light turns green. They just spin out and spin around, and hit each other creating massive multi-car wrecks under the train bridge.</p> <p>Other traffic that needs to get through (but can't) has to do a 4 mile detour around the intersection because there are no nearby train crossings to use as an alternate route. We have to go to 4700 South and back up to 5600 West to get around it, which is 4 miles. I have done itmany times on bad roads, and it takes an hour if I'm lucky and there aren't wrecks on that route.</p> <p>Suggestions I have are:</p> <ul style="list-style-type: none">* Make a pedestrian bridge over 5400 South to accommodate foot traffic across 5400 S. to remove the extreme risk of school kids and others trying to walk across 5400 So.* Widen the street and train bridge opening.* Lessen the incline of the street, drawing it back more towards 5600 West, it might help with the cluster crashes on slippery roads.* If that isn't an option, change the main intersection to the top of the hill instead of on the incline.* If the train bridge could be higher, the grade could be made less steep and less hazardous.* Find a way to make the intersection NOT BLIND to traffic coming from the West around the curve and down the hill. This would minimize the cars and huge trucks that run through the red light all the time. The yellow flashing light isn't cutting it.* Construct an alternate RR crossing somewhere North of 5400 South between 5400 S. and 4700 West when there are cluster wrecks at the train bridge to be used as a more efficient detour. <p>The intersection is a nightmare from hell. I don't think widening 5400 South is the only issue here.</p> <p>The lesser intersection that feeds it from Charlotte Ave just North of 5400 and Cougar Ln is massively screwed up. Whoever designed it was on crack. You can't get out onto 5400 South and big lines form both north and south and east and west, trying to get through the light at Cougar Lane and Charlotte Ave. Maybe 2 cars get through if there are no pedestrians to wait for. Drivers there are not polite. They try to beat other vehicles through to get onto 54th. Their rudeness takes over because of the crappy design. Massive Hazard.</p>
S057	Whatever is done, pedestrian safety is of great concern. I've walked the sidewalks on 5400 South several times over the years and it is scary. There is not enough room on the sidewalks, especially when people put their trash cans out. People are driving by at 40-50 mph and passing with scant inches to spare (or at least it feels that way). Widening the sidewalks and installing pedestrian bridges to cross the road would help immensely. Providing other locations for people to put their trash cans would help as well. When the trash cans are on the sidewalks, it forces pedestrians into the road in many instances because the sidewalks are not wide enough to go between the trash cans and fences.
S058	If the road is widened to the railroad bridge at Northwest Avenue and 5400 South, how does UDOT propose to deal with the even greater bottleneck that will be created? This area is already a nightmare during rush hour traffic. If the road is only widened to this point and not widened all the way to 5600 West, the traffic problems -- and related safety of persons in vehicles and pedestrians -- will be even worse than now
S059	5400 South appears on both the County Cooperative Plan 2010 bike route map and the WFRC November 2010 Draft bike map which shows different segments of 5400 South as both Class 2 and Class 3 proposed priority bike routes. Also the new Draft 2040 RTP dated 1/25/2011 we received yesterday at the WFRC Regional Council meeting shows this project as a a "Priority" Class 3 bike route.
S060	I think you should not redo the road. i think you should redo 6200 south bangerter to 4800 west. It is far more congested then 5400 south. When you think of the impact on the residents and business on 5400 south. It would be a shame to widen that part of the road and the hardship to the families involved. Please rethink your project, before it is too late.
S062	Pedestrian Safe Crossings near Bangerter Highway
S063	Where are the right turn lanes on Bangerter at 4700 and 5400 like there are at 3500? This design change is contributing to accidents as drivers turn right in the left turn lane or proceed across the left turn lane when the Bangerter traffic has the right of way.
S064	Gold's Gym- Note cars parked close as possible to entrance!
S065	Need to fix the angle at which this intersection [4015 W.] is at (more striaght) from eastbound traffic)
S066	S.Side- 4015 W. to 42240 W. Water ponding "Kearns Lake"
S067	To the North and the businesses would have to rebuild
S068	The front would have to come off this building [near 4218 W. north side of road]
S069	Lots of accidents at 4220 W.
S070	Time this light [4220 W] better

Other Comments	
S071	Kids cross here to get to library and school, 4270 W.
S073	Pedestrian ramp floods and fills up with dirt and gravel after it rains, 4270 W. 5415 S. Lots of jay walkers cross street to get to library, school, church and no cross walk
S074	Rental Property at 4417 W. 5415 S.
S075	Expand on the north side and the fire station would have to move east to where the Methodist Church life center is to move it back
S076	Block this road- make dead end [4460 W., 4620 W.]
S077	Improve sidewalks and shoulders because garbage cans block sidewalks so people have to walk in street
S078	Widen on the north side and 28 homes will be lost
S079	Large sign should have been gone [near 4728 W.]
S080	S.B. to W.B dangerous sight distance [Northwest Ave]
S081	People walk in street because snow isn't shoveled under [railroad] bridge
S082	Hill ices up during winter to the northbound safety [south side of road on Northwest Ave.]
S083	Find a second way to cross the railroad between 5400 S. and 6200 S.
S084	Railroad bridge is too narrow for 7 lanes
S085	A pedestrian trail along RR would be safer for walkers, cyclists, etc.
S086	How do the high school kids get across or under tracks if it moves to 7 lanes?
S087	Traffic from Northwest [Ave.] to 4800 W. mostly dead stoped during peak
S088	Difficult intersection to navigate [north side of 4800 W.]
S089	Can 5400 S. be widened on the north from Northwest Ave. to morning Breeze Dr?
S090	Coming down Cougar Lane in the winter car slide down into the intersction all the time
S091	Closing Heath was a big mistake. Too hard to get out of neighborhood. Light on Charlotte/ Cougar Lane is not long enough now to allow kids to cross going to the high school. The light changes before they get across.
S104	In the meeting yesterday (2/4/11) there was some discussion regarding Class 2 bike lane widths. I was referencing the most recent February 2010 Draft of the AASHTO Guide for the Planning, Design and Operation of Bicycle Facilities, which everyone may not be familiar with. Attached for your information are the relevant pages copied from the guide.